Patent Resources and Services at A Patent and Trademark Depository Library (PTDL)

Lisha Li

Presented for the Outreach Council

Georgia Tech Library

Oct. 2010

Outlines

- IP Definitions and Terminology
- Sample Patents
- Patent Classifications
- Patent Statistics
- PTDLP and PTDL
- Patent Search Systems

Intellectual Property (IP)

- Intellectual Property (IP): refers to creations of the mind: inventions, literary and artistic works, and symbols, names, images, and designs used in commerce.
  - 1) Industrial property (patents, trademarks, industrial designs, etc.);
  - 2) Copyright (literary works such as novels, poems and plays, films, musical works, artistic works such as drawings, paintings, photographs and sculptures, and architectural designs).

Foundation of Intellectual Property

- "The Congress shall have Power…
  - To promote the Progress of Science and useful Arts, by securing for limited Times to Authors and Inventors the exclusive Right to their respective Writings and Discoveries."

    - *Article I, Section 8 of the United States Constitution*

Copyright

- A legal right given to an author, artist, composer, or programmer, to exclude others from publishing or copying literary, dramatic, musical, artistic, or software works.

- Copyright Terms:
  - 70 years from the death of the last surviving author (for works created after 1/1/1978)
  - 28-95 years depends (for works originally created and published or registered before 1/1/1978)

What is Not Protected by Copyright

- Names of products, services, business, or organizations.
- Names of persons
- Titles of works
- Ideas, plans, procedures, methods, systems, processes, concepts…
- Single words or short phrases, slogans, mottoes
- Familiar symbols or designs
- The idea for games or the names of games.

® Trademark

- A trademark is any word, phrase or design, or a combination of those that is consistently associated with *a product* and identifies and distinguishes that product from others in the marketplace.
- A service mark is the same as a trademark, except that it identifies and distinguishes the source of a *service* rather than a product.

SM

i'm lovin' it®

TM

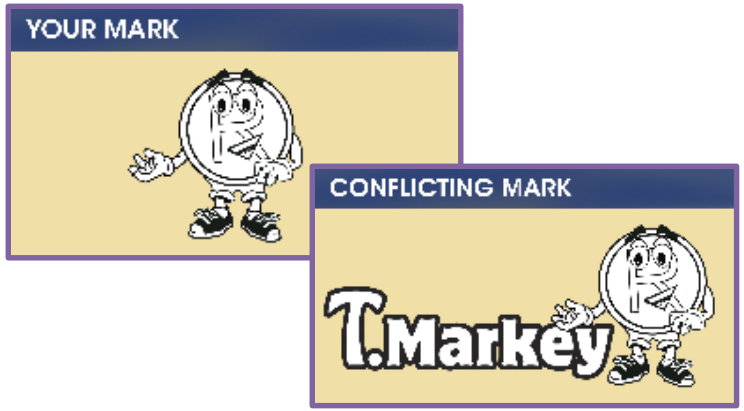
Dove

THERE'S AN APP FOR THAT

Examples of Trademark Refusal

- The mark is:
  - merely ornamental
  - merely a surname
  - the name, image or signature of a deceased president of the U.S.
  - merely descriptive or deceptively mis-descriptive of the goods and services

- The mark:
  - consists of immoral, or scandalous matter
  - resembles an active mark registered with the PTO to cause confusion, mistake.



Trademark Term

	Registration	Renewal
Before 11/16/1989	20 years	20 years
After 11/16/1989	10 years	10 years
Notes:	For a trademark registration to remain valid, an Affidavit of Use ("Section 8 Affidavit") must be filed: (1) between the 5th and 6th year following registration, and (2) within the year before the end of every 10-year period after the date of registration. The registrant may file the affidavit within a grace period of 6 months after the end of the 6th or 10th year, with payment of an additional fee.	The registrant must also file a §9 renewal application within the year before the expiration date of a registration, or within a grace period of 6 months after the expiration date, with payment of an additional fee.

Trade Secrets

- Any information, design, device, process, composition, technique, or formula that is not known generally and that affords its owner a competitive business advantage.

Patent

- A grant of **property right** by the government to the inventor (or his heirs or assigns), acting through the Patent and Trademark Office. The assignee of the patent has the right to exclude others from making, selling, or using the invention for a limited period of time, usually 20 years from the time of application. This right extends throughout the United States and its territories and possessions.
- Patents represent the latest advances in technology and as such are indicators of the leading technology in any field and are an excellent resource for researchers.

Definitions

- Prior Art:
  - State of knowledge existing or available before the date of an invention.
- Patentee
  - The inventor; the person to whom the patent has been granted. As a piece of intellectual property a patent is considered a property right and can be bought, sold, willed to heirs, etc. The patentee is not necessarily the assignee of the rights to the patent.
- Assignee
  - The recipient of the patent rights (owner). The assignee may be a U.S. or foreign company or individual of the U.S. or a foreign government. The assignee is not necessarily the inventor of the invention being patented. Many inventors assign the rights to their inventions over to other individuals or institutions.

Abbreviations

- USPTO - U.S. Patent and Trademark Office
- EPO – European Patent Office
- JPO – Japanese Patent Office
- WIPO - World Intellectual Property Organization
- USPC - U.S. Patent Classification
- IPC – International Patent Classification
- PTDL - Patent and Trademark Deposit Library
- PTDLP – Patent and Trademark Deposit Library Program

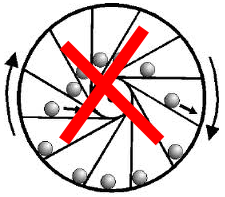
Patentability Requirements

- Allowable subject matter - Statutory class (35 U.S.C. S101):
  - *processes (methods);*
  - *machines;*
  - *articles of manufacture;*
  - *compositions;*
  - *"new use" of one of the above*

- Novelty
  - Must be different from the prior art
  - No prior publication, use or sale more than one year before application in the U.S.
- Non-obviousness
  - Not obvious to a person skilled in the art
- Usefulness
  - Must be able to accomplish object of invention
  - Must be practical
- Full disclosure

Examples of What Is Not Patentable

- Inventions disclosed to the public more than 12 months prior to filing in the U.S.
- Laws of nature
- Non-useful inventions



- Inventions that are vital to national security
- Unsafe drugs

- Atomic weapons (U.S. Atomic Energy Act 1954)

Three Types of U.S. Patents

- **Utility Patent** (1790-):
  - Granted to anyone who invents or discovers *any new and useful* process, machine, article of manufacture, or composition of matter, or any new and useful improvement thereof. (>7,000,000)
- **Design Patent** (1842-):
  - Granted to anyone who invents *a new, original*, and ornamental design for an article of manufacture. (>500,000)
- **Plant Patent** (1930-):
  - Granted to anyone who *invents or discovers and asexually reproduces* any distinct and new variety of plant. (>10,000)

Patent Terms

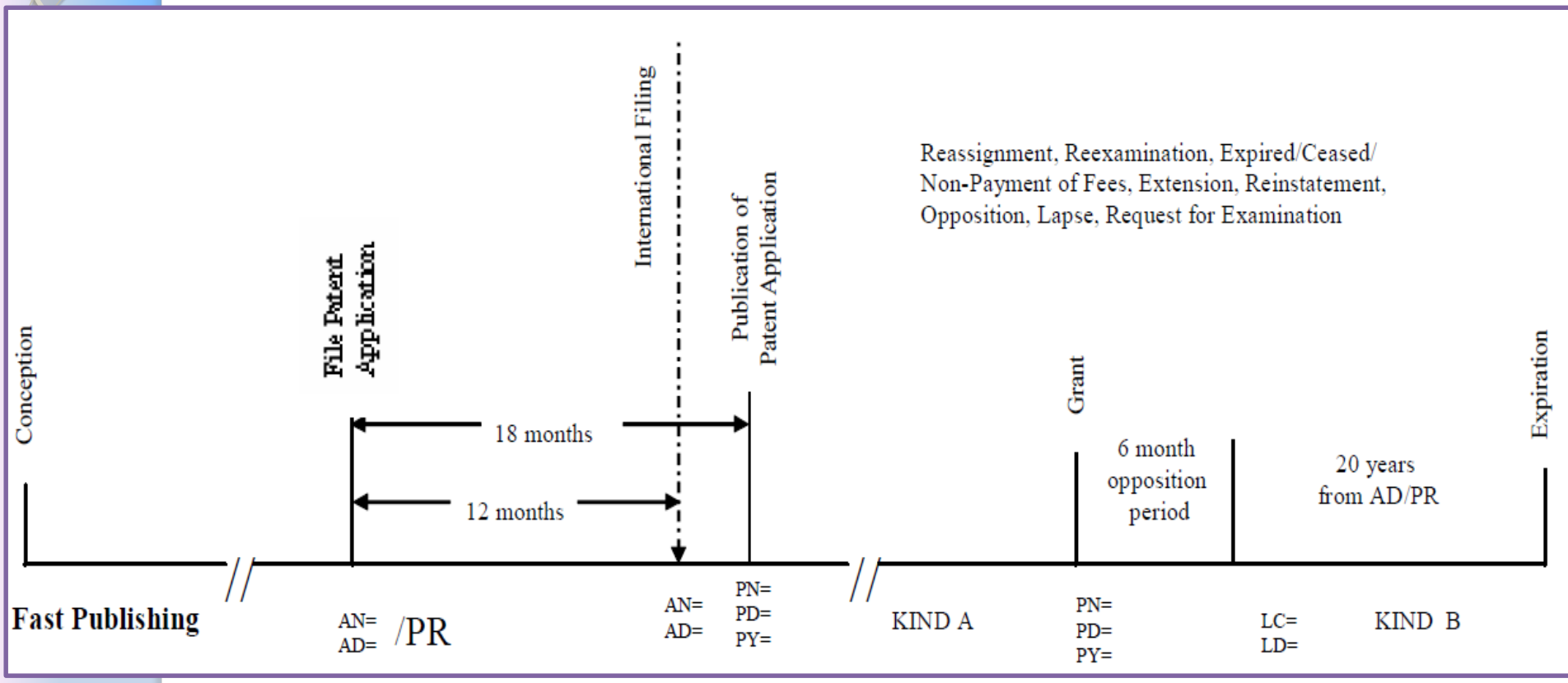
Utility and Plant Patents		Design Patents	
1790-1836:	14 years	1842-1861:	7 years
1836-1861:	14 years + year ext.	1861-1981:	3 2/1, 7 or 14 years
1861-1995:	17 years	1981-present:	14 years
1995-present:	20 years from filing		

Patent Fees Example

Utility Patents - For small entity:

- Basic filing fee: $165; $82 (e-filing)
- Independent claims in excess of three: $110
- Utility Examination Fee: $110
- Patent Maintenance Fees:
  - 3.5 years: $490
  - 7.5 years: $1,240
  - 11.5 years: $2,055
- Miscellaneous Patent Fees: varies

Patent Process Timeline

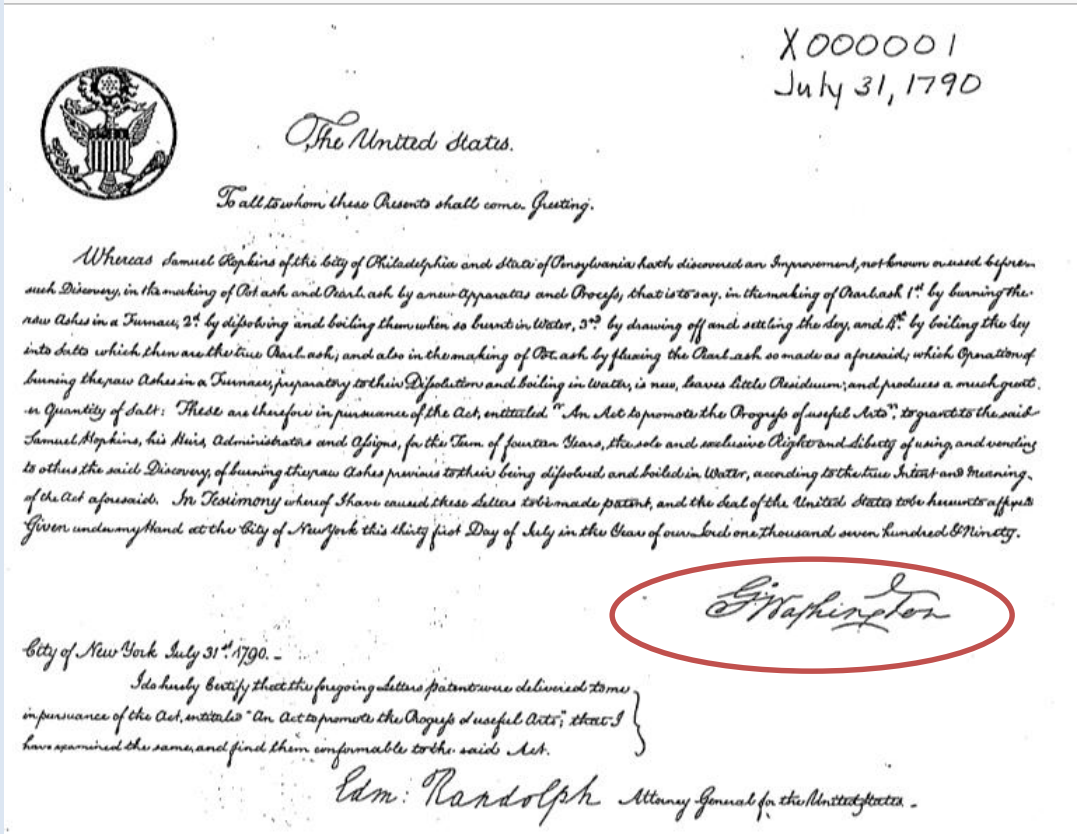


(Note: AN=application number; AD=application date)

Source: Dialog

The First U.S. Patents

- Granted on July 31, 1790.
- Patent No.: X1
- Inventor: Samuel Hopkins (1743-1818)
- Signed by President George Washington.
- A patent on an improvement "in the making of Pot ash and Pearl ash by a new Apparatus and Process.



X000001
July 31, 1790

The United States.

To all to whom these Presents shall come. Greeting.

Whereas Samuel Hopkins of the City of Philadelphia and State of Pennsylvania hath discovered an Improvement, not known or used before such Discovery, in the making of Pot ash and Pearl ash by a new Apparatus and Process, that is to say, in the making of Pearl ash 1st by burning the raw Ashes in a Furnace, 2d by dissolving and boiling them when so burnt in Water, 3rd by drawing off and settling the ley, and 4th by boiling the ley into Salts which then are the true Pearl ash; and also in the making of Pot ash by fluxing the Pearl ash so made as aforesaid; which Operations of burning the raw Ashes in a Furnace, preparatory to their Dissolution and boiling in Water, is new, leaves little Residuum, and produces a much greater Quantity of Salt: These are therefore in pursuance of the Act, entitled "An Act to promote the Progress of useful Arts", to grant to the said Samuel Hopkins, his Heirs, Administrators and Assigns, for the Term of fourteen Years, the sole and exclusive Right and Liberty of using and vending to others the said Discovery, of burning the raw Ashes previous to their being dissolved and boiled in Water, according to the true Intent and Meaning of the Act aforesaid. In Testimony whereof I have caused these Letters to be made patent, and the Seal of the United States to be hereunto affixed. Given under my Hand at the City of New York this thirty first Day of July in the Year of our Lord one thousand seven hundred & Ninety.

G. Washington

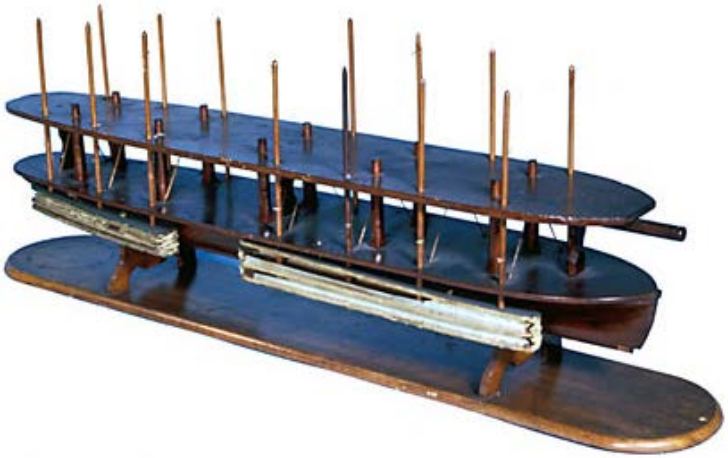
City of New York July 31st 1790.

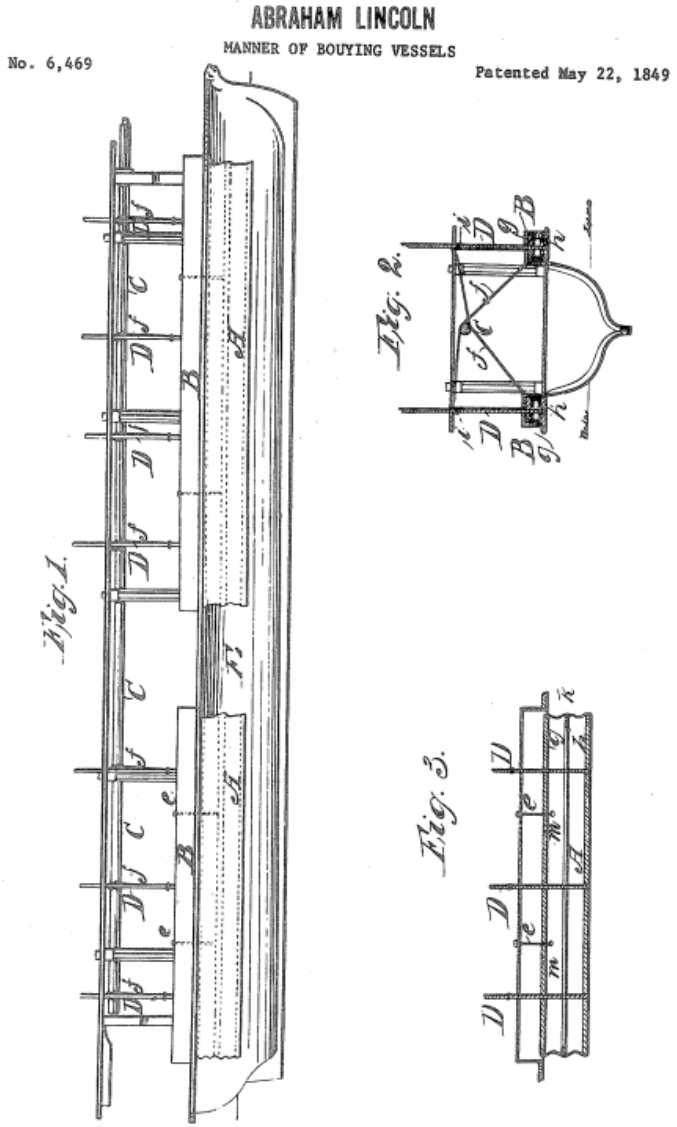
I do hereby certify that the foregoing Letters patent were delivered to me in pursuance of the Act, entitled "An Act to promote the Progress of useful Arts", that I have examined the same, and find them conformable to the said Act.

Edm: Randolph Attorney General for the United States.

Manner of Bouying Vessels
Inventor: Abraham Lincoln
Patented: May 22, 1849
Patent No.: 6,469

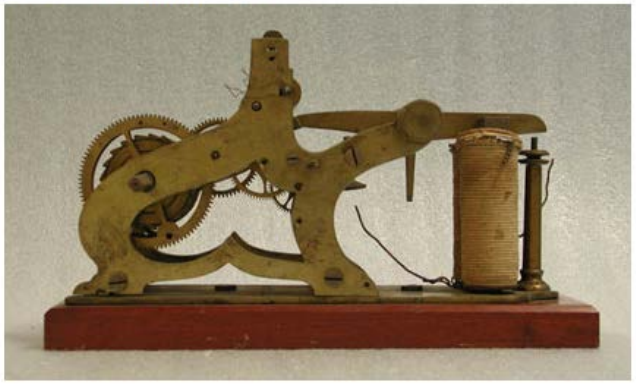
Abraham Lincoln's Patent Model: Improvement for Buoying Vessels Over Shoals

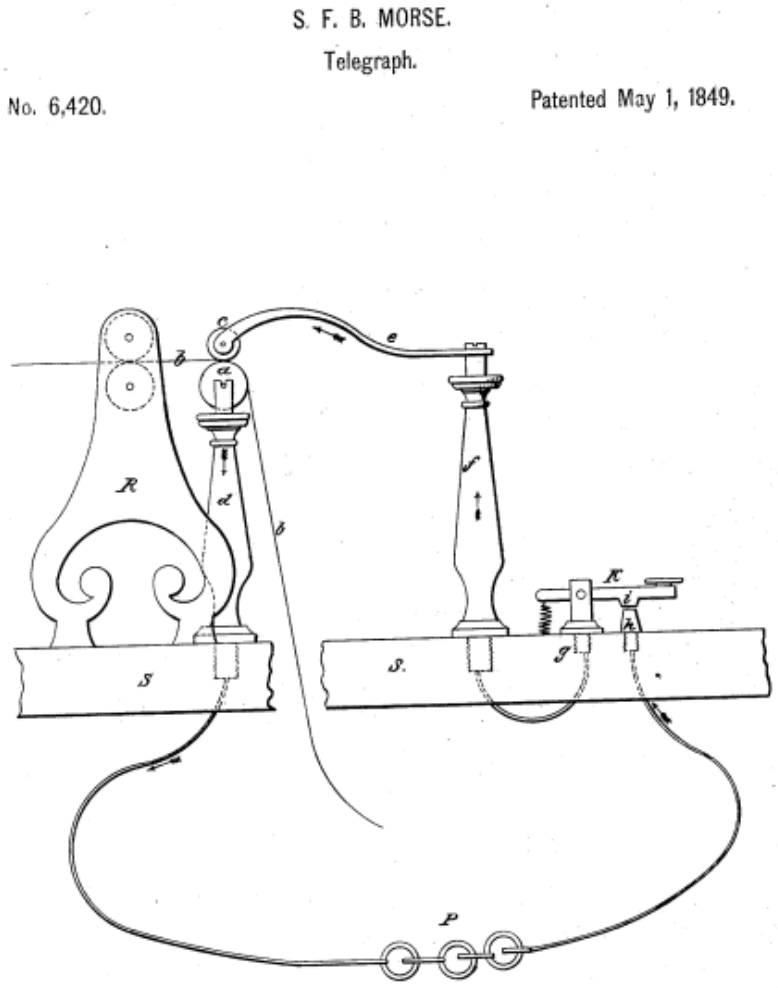




Telegraph
Inventor: S.F.B. Morse
Patented: May 1, 1849
Patent No.: 6,420

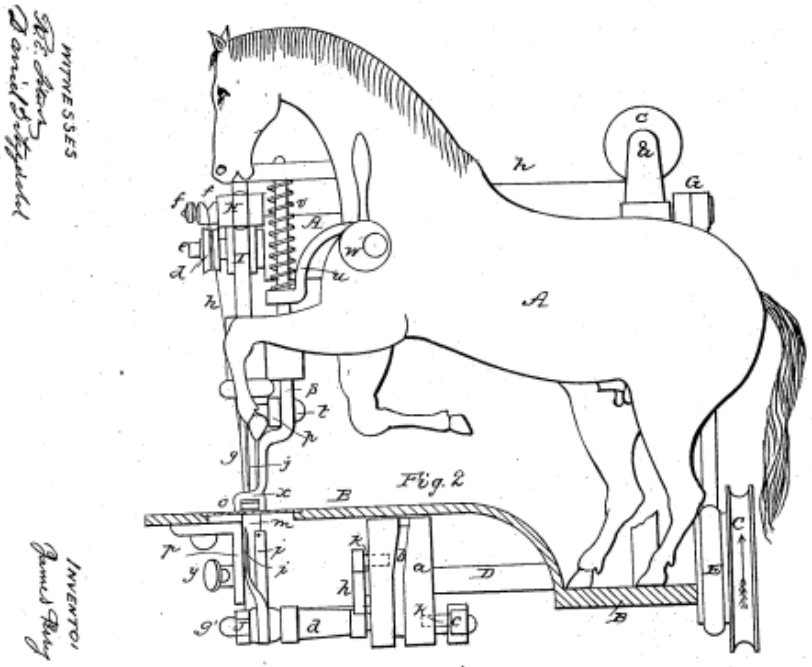
Morse Telegraph Register



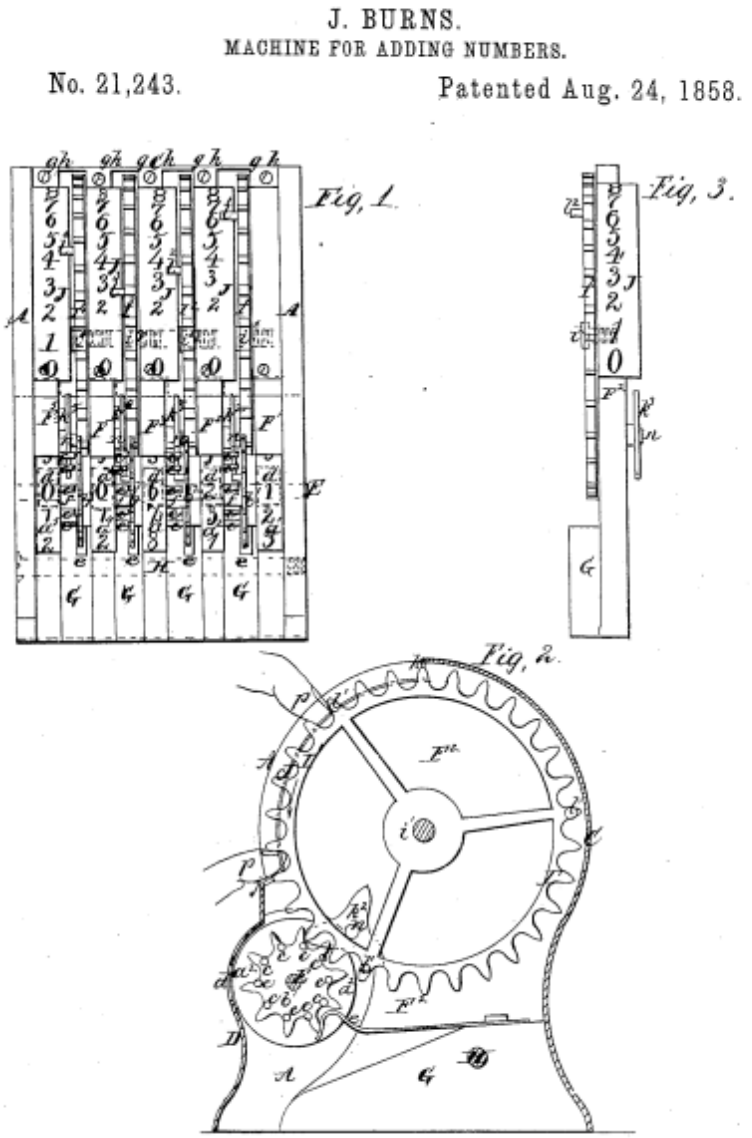

S. F. B. MORSE.
Telegraph.
No. 6,420.
Patented May 1, 1849.

Sewing Machine
By James Perry
Patented: Nov. 23, 1858
Patent No.: 22,148

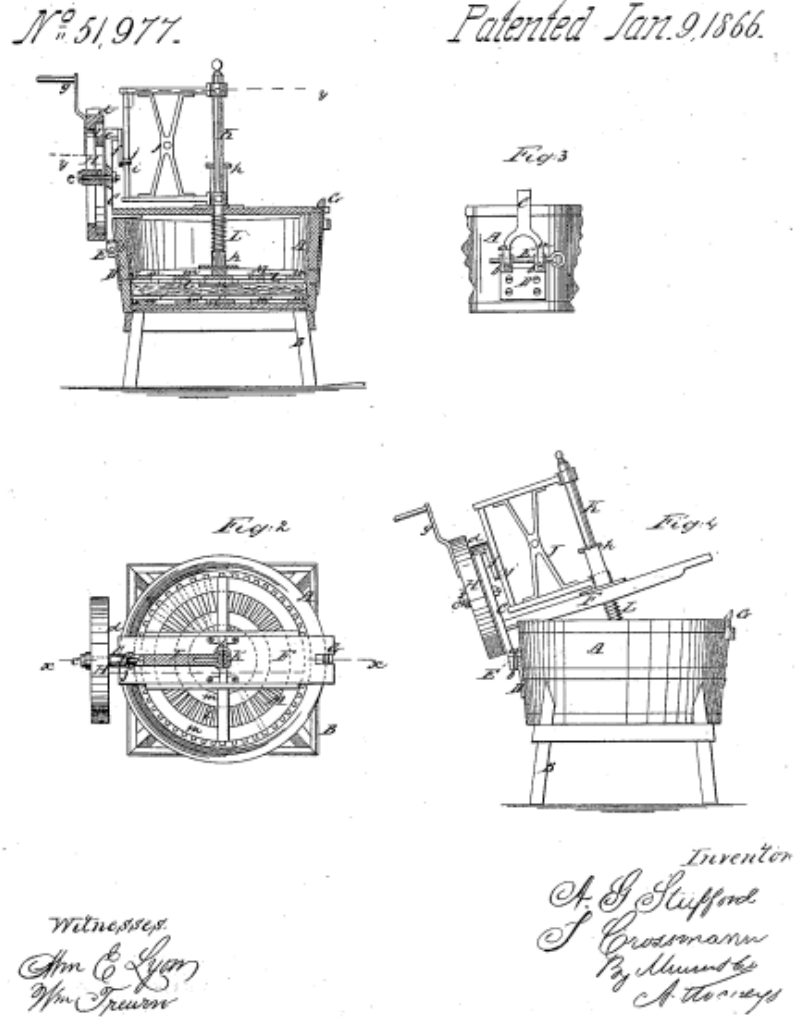
J. PERRY.
Sewing Machine.
2 Sheets—Sheet 2.
Patented Nov. 23, 1858.

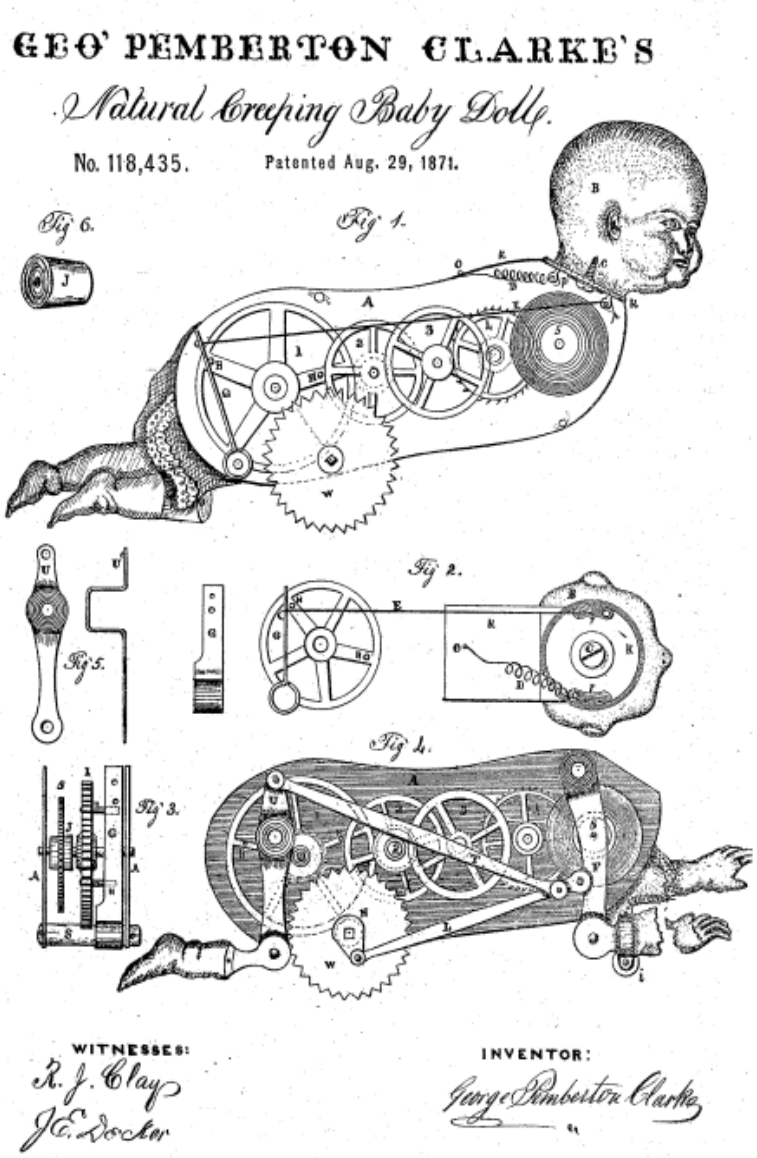


Adding Machines
Inventor: Jabez Burns
Patented: Aug. 24, 1858
Patent No.: 21243

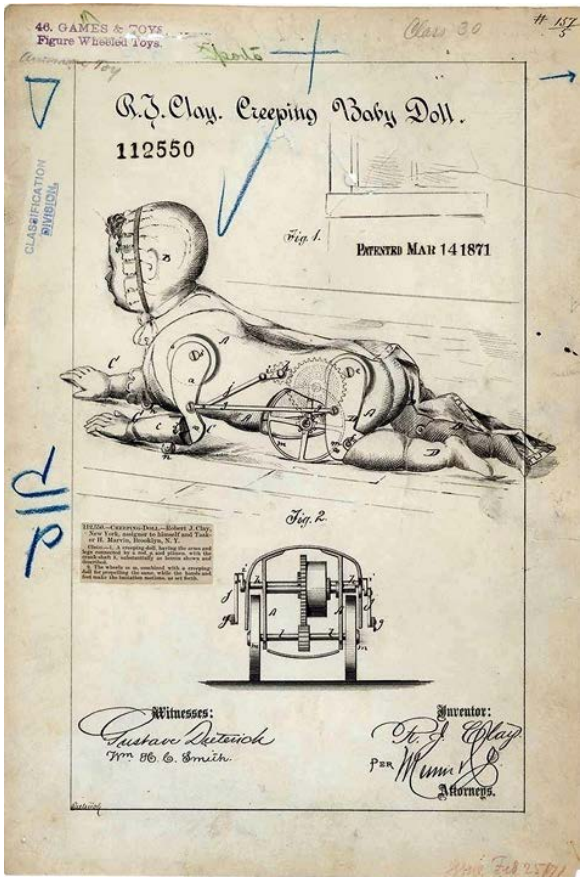


Washing Machine
Inventor: A.J. Stafford and S. Crossman
Patented: Jan. 9, 1866
Patent No.: 51977





Creeping Baby Doll
Inventor: George Pemberton Clarke
Patented: Aug. 29, 1871
Patent No.: 118,435



Design Patent

- Statue
- Inventor: Auguste Bartholdi
- U.S. Patent # D11,023
- Patented: Feb. 18, 1879

D19-34.5 AU 2901 EX
FIP: 05/96 XR D011023

DESIGN.

A. BARTHOLDI.
Statue.

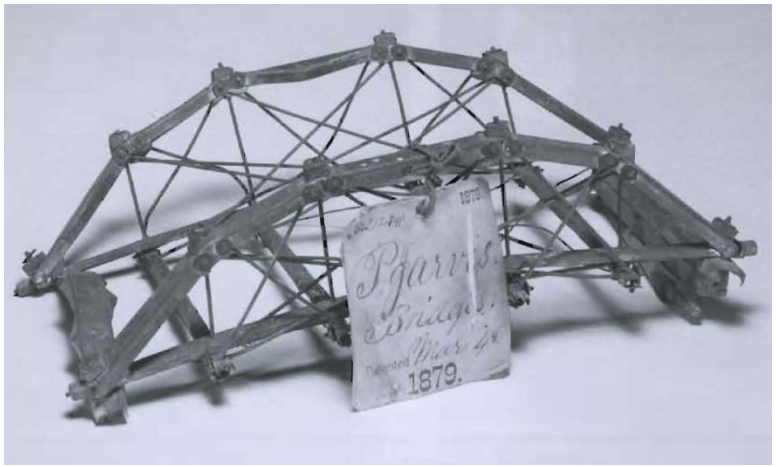
No. 11,023. Patented Feb. 18, 1879.

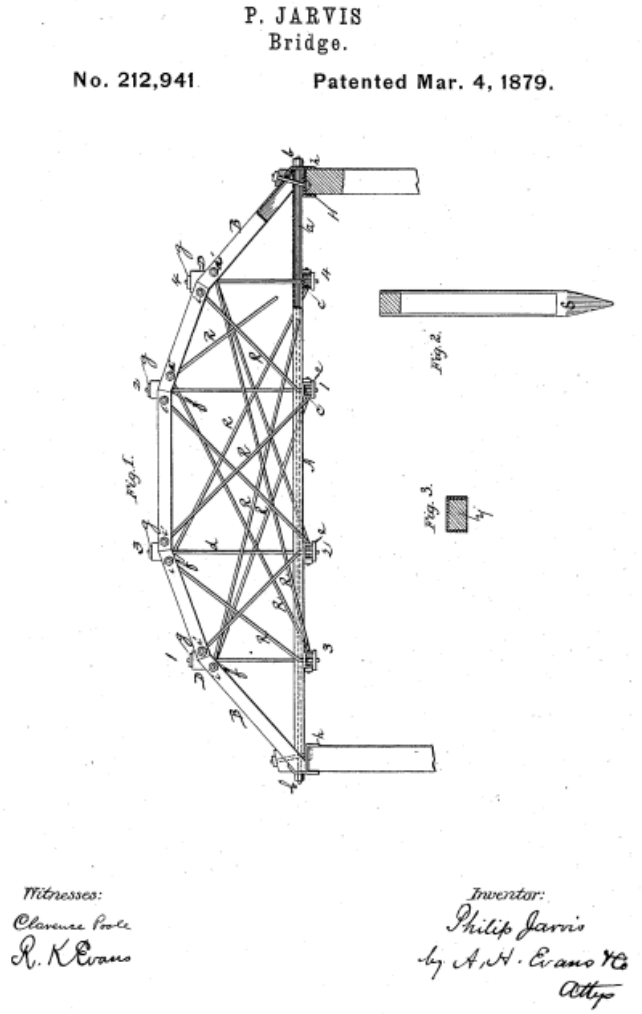
LIBERTY ENLIGHTENING THE WORLD.

Witnesses:
E. F. Brick
J. E. Carpenter.

Inventor:
Auguste Bartholdi
by Pollok
atty.

Bridge
Inventor: Philip Jarvis
Patented: Mar. 4, 1879
Patent No.: 212,941





Camera
Inventor: George Eastman
Patented: Sept. 4, 1888
Patent No.: 388,850

THE

KODAK CAMERA.

ANYBODY CAN USE IT.

Photography reduced to Three Motions.

...er Medal, Minneapolis Convention, P. A. of A., for most Important Invention for the year.

1. Pull the Cord. 2. Turn the Key. 3. Press the Button.

And so on for one hundred pictures.

...e Hundred Shots Before Reloading.

Size of Camera, 3¼ x 3¼ x 6½ inches.
Size of Picture, 2½ inches diameter.
Weight of Camera, 35 ounces.

...DER, Loaded, ... $25.00.

...spools, film for 100 pictures, ... $2.00

...sers can finish their own pictures, or the ...osed film can be sent to the factory, by ...ll, to be developed and pictures finished. ...ge for 100 finished pictures, including spool ...100 films, for reloading, ... 10.00

THE EASTMAN DRY PLATE AND FILM CO.,

...Oxford St., London. ROCHESTER, N. Y.

(x)

(No Model.) 3 Sheets—Sheet 1.

G. EASTMAN.

CAMERA.

No. 388,850. Patented Sept. 4, 1888.

Fig. 1.

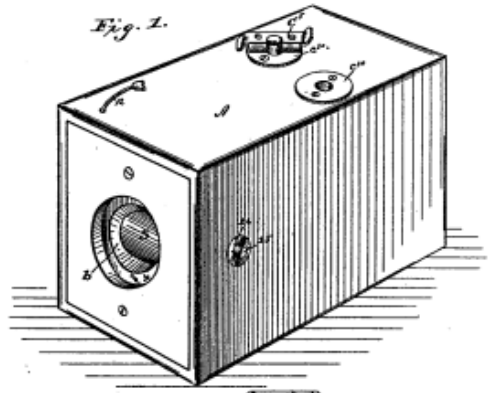


Fig. 3.

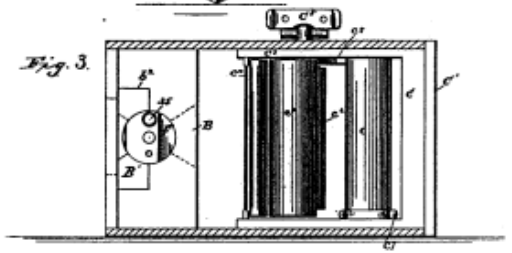
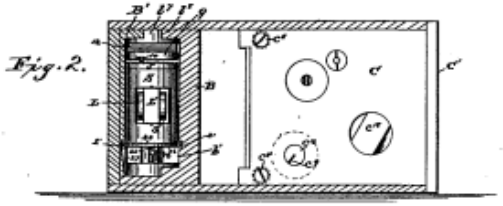


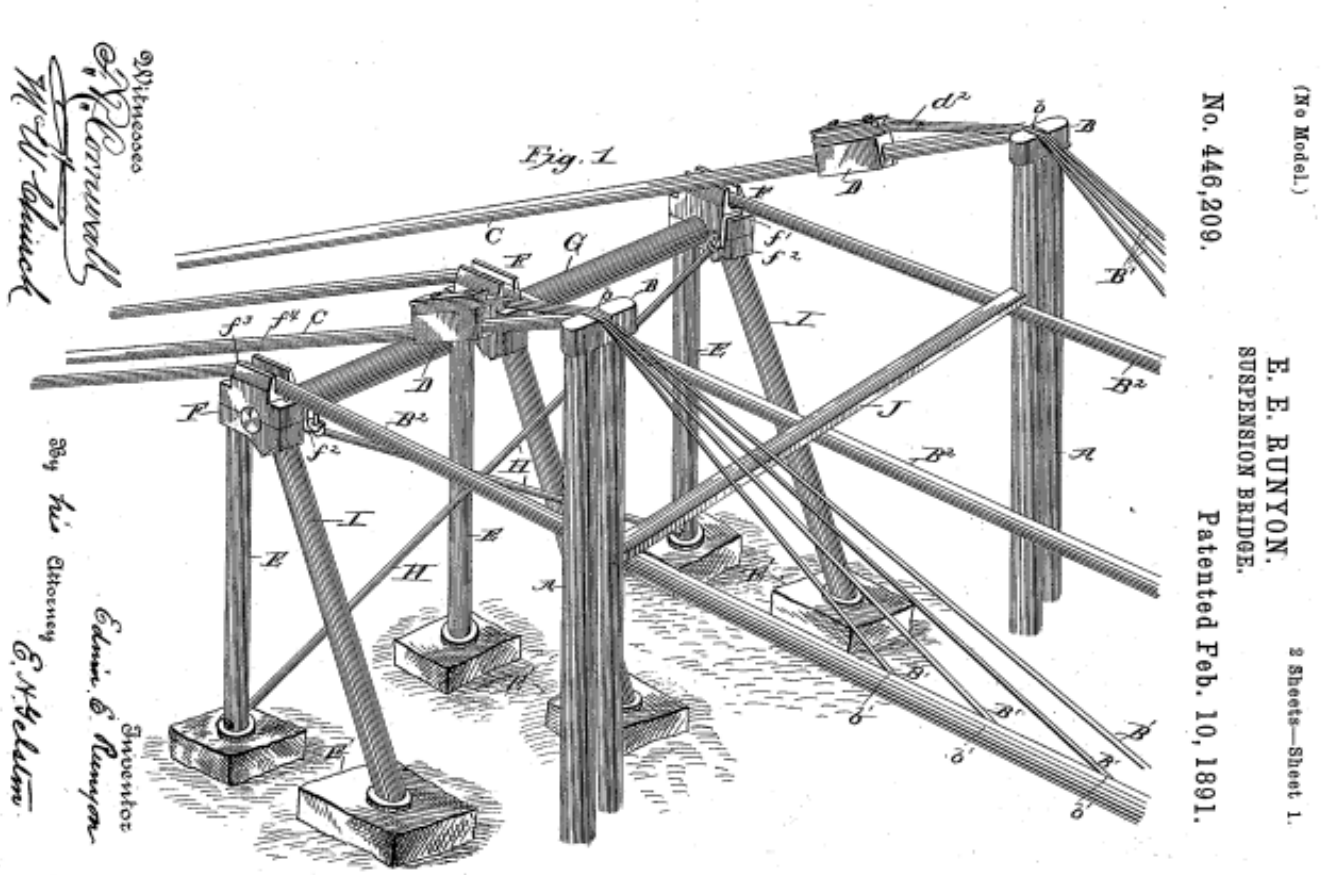
Fig. 2.



Witnesses.
Chas. R. Burr.
A. J. Stewart.

Inventor.
George Eastman.
by Church & Church
his Attorneys.

Suspension Bridge
Inventor: E.E. Runyon
Patented: Feb. 10, 1891
Patent No.: 446,209


(No Model.) 2 Sheets—Sheet 1.

E. E. RUNYON.

SUSPENSION BRIDGE.

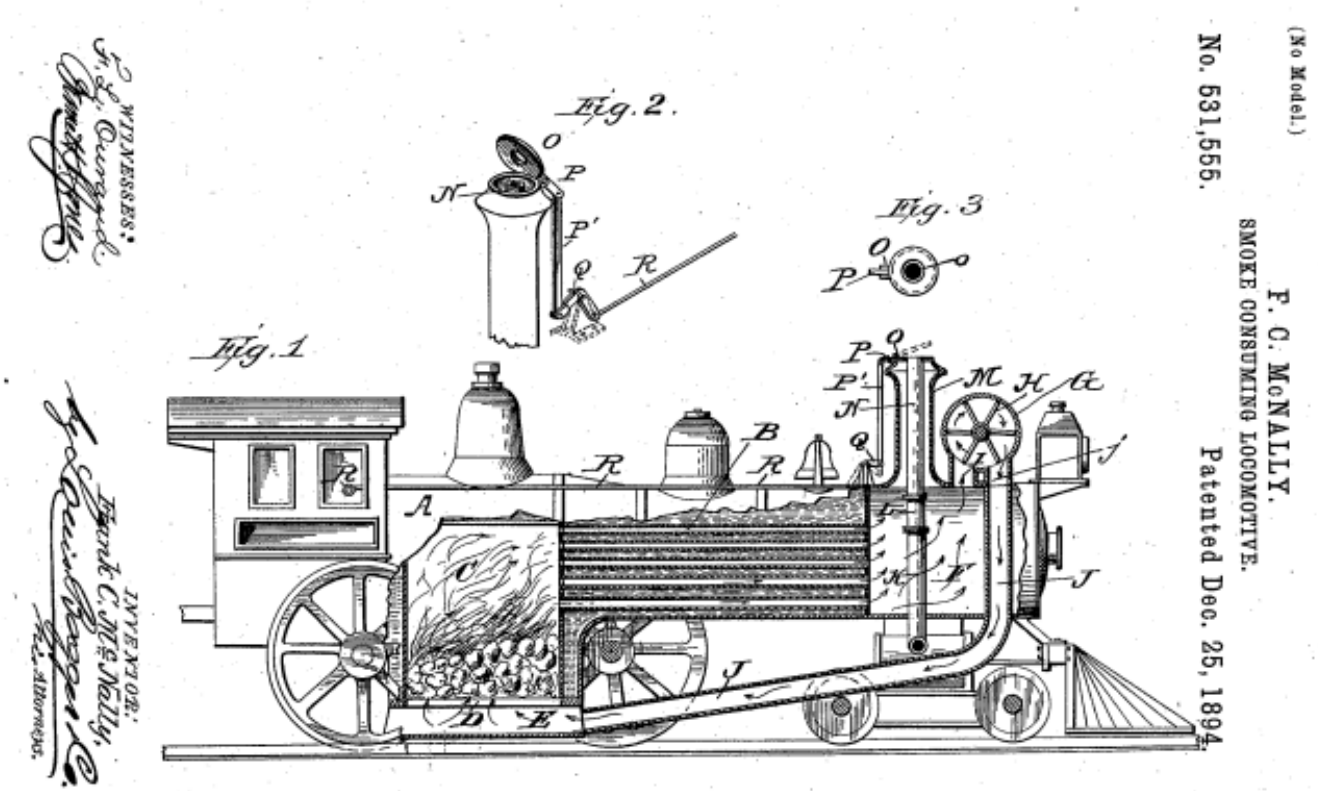
No. 446,209. Patented Feb. 10, 1891.

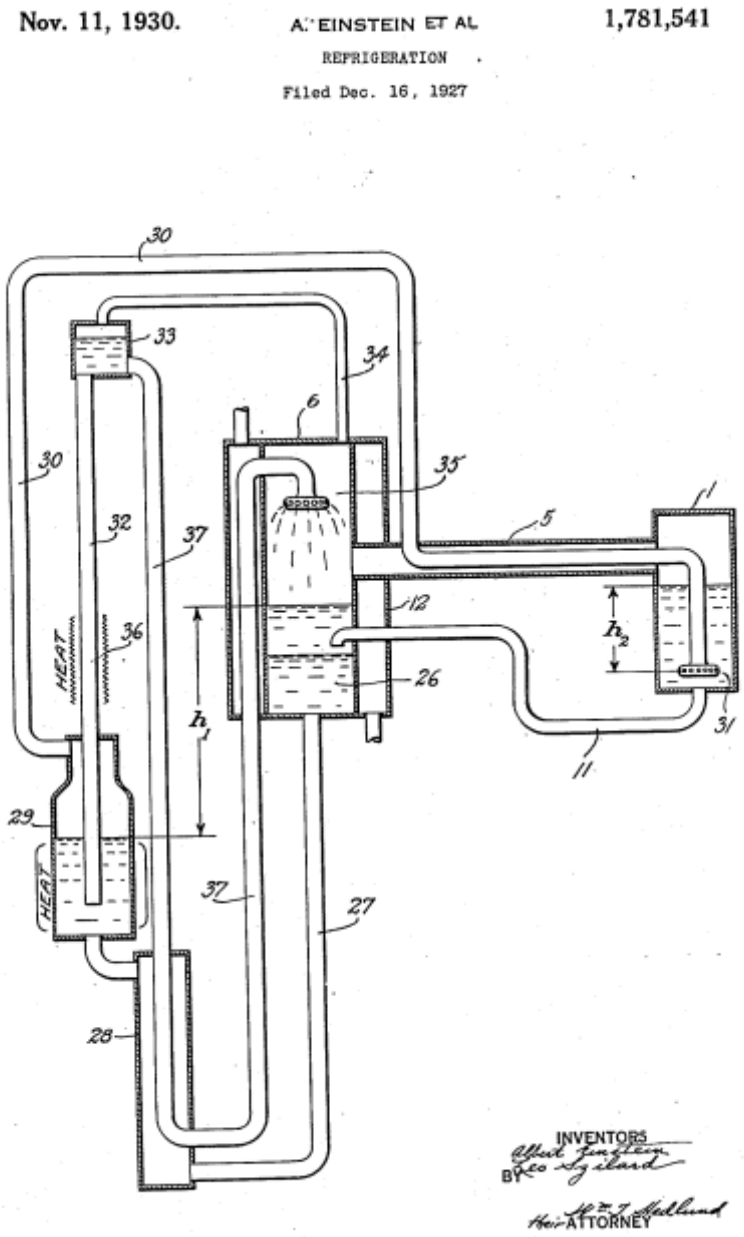
Fig. 1.

Witnesses
C. Kenwall
M. M. Schuck

Inventor
Edwin E. Runyon
By his Attorney
E. N. Helm

Smoke Consuming Locomotive
Patented: Dec. 25, 1894
Patent No.: 531,555




Nov. 11, 1930. A. EINSTEIN ET AL 1,781,541

REFRIGERATION

Filed Dec. 16, 1927

30 33 34 6 30 35 1 32 37 5 HEAT 36 12 h_2 26 h_1 31 11 29 HEAT 37 27 28

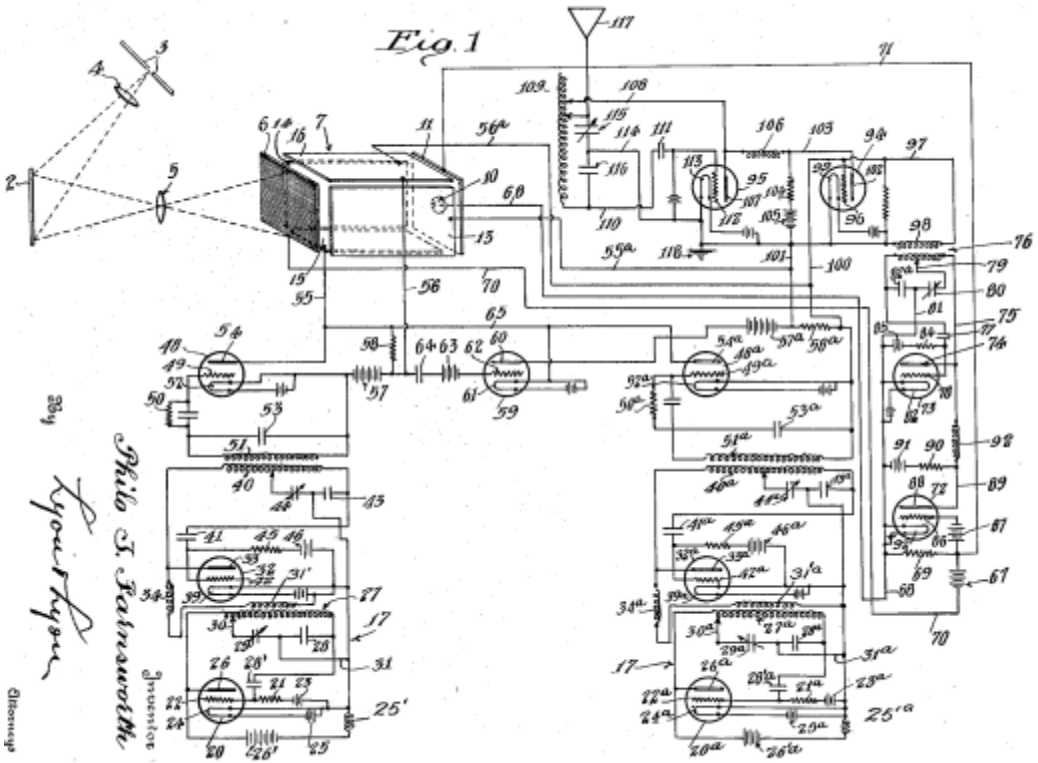
INVENTORS

BY

ATTORNEY

- Refrigeration
- Inventor: Albert Einstein et al.
- Patent No.: 1,781,541
- Patented: Nov. 11, 1930

Television System
Inventor: P.T. Farnsworth
Patented: Aug. 26, 1930
Patent No.: 1,773,980

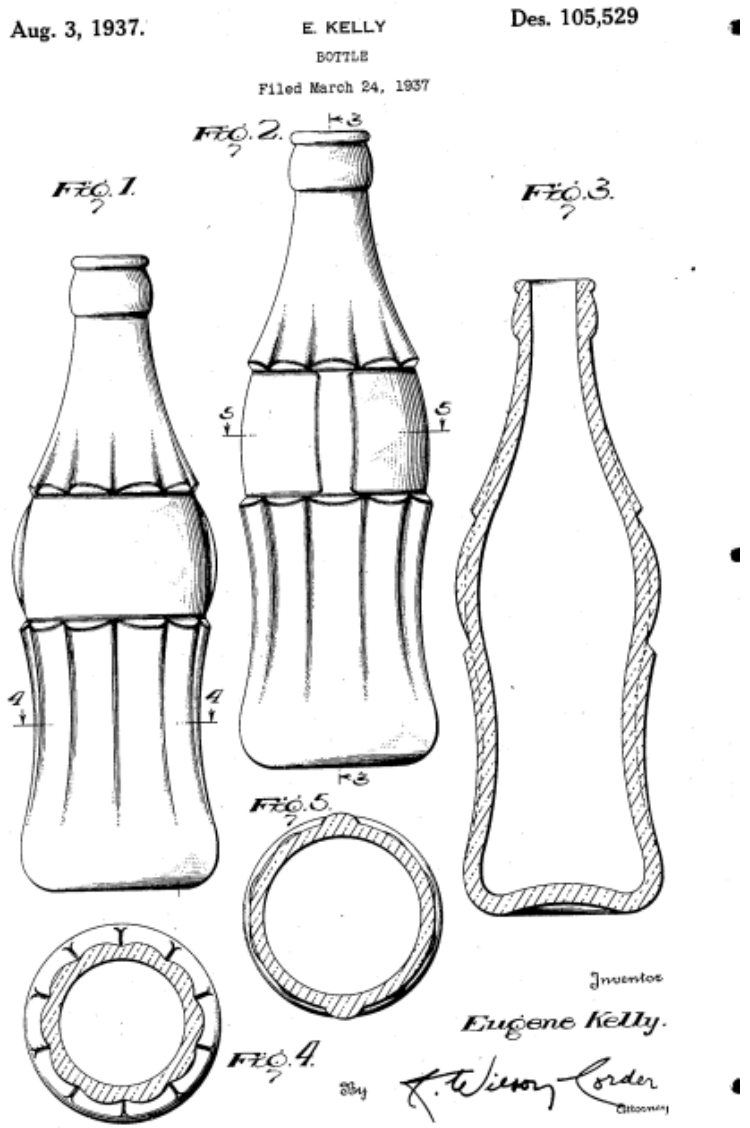


Aug. 26, 1930. P. T. FARNSWORTH 1,773,980

TELEVISION SYSTEM

Filed Jan. 7, 1927 4 Sheets-Sheet 1

Design of A Bottle
Inventor: Eugene Kelly
Patented: Aug. 3, 1937
Patent No.: D105,529

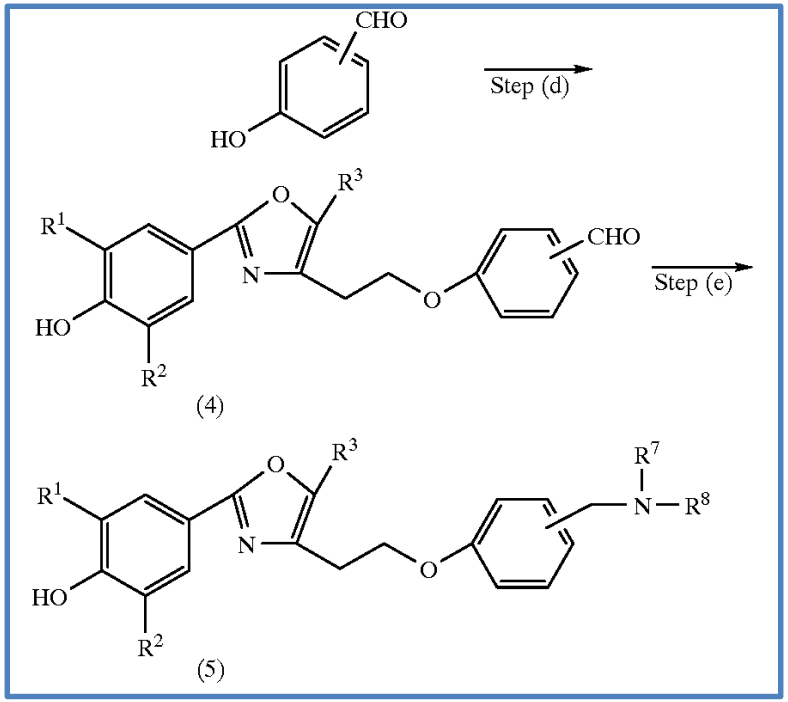


Method for treating pain

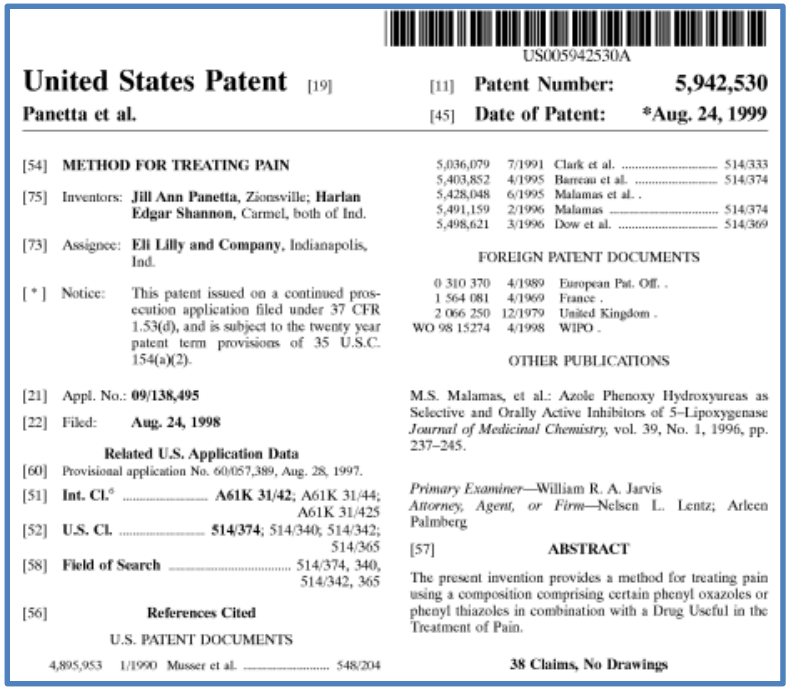
Assignee: **Eli Lilly and Company**

Patented: **August 24, 1999**

Patent No.: **5,942,530**



composition, method



US005942530A

United States Patent [19]

Panetta et al.

[11] **Patent Number: 5,942,530**

[45] **Date of Patent: *Aug. 24, 1999**

[54] **METHOD FOR TREATING PAIN**

[75] Inventors: **Jill Ann Panetta**, Zionsville; **Harlan Edgar Shannon**, Carmel, both of Ind.

[73] Assignee: **Eli Lilly and Company**, Indianapolis, Ind.

[*] Notice: This patent issued on a continued prosecution application filed under 37 CFR 1.53(d), and is subject to the twenty year patent term provisions of 35 U.S.C. 154(a)(2).

[21] Appl. No.: **09/138,495**

[22] Filed: **Aug. 24, 1998**

Related U.S. Application Data

[60] Provisional application No. 60/057,389, Aug. 28, 1997.

[51] **Int. Cl.**[6] **A61K 31/42**; A61K 31/44; A61K 31/425

[52] **U.S. Cl.** **514/374**; 514/340; 514/342; 514/365

[58] **Field of Search** 514/374, 340, 514/342, 365

[56] **References Cited**

U.S. PATENT DOCUMENTS

4,895,953	1/1990	Musser et al.	548/204
5,036,079	7/1991	Clark et al.	514/333
5,403,852	4/1995	Barreau et al.	514/374
5,428,048	6/1995	Malamas et al. .	
5,491,159	2/1996	Malamas	514/374
5,498,621	3/1996	Dow et al.	514/369

FOREIGN PATENT DOCUMENTS

0 310 370	4/1989	European Pat. Off. .
1 564 081	4/1969	France .
2 066 250	12/1979	United Kingdom .
WO 98 15274	4/1998	WIPO .

OTHER PUBLICATIONS

M.S. Malamas, et al.: Azole Phenoxy Hydroxyureas as Selective and Orally Active Inhibitors of 5-Lipoxygenase *Journal of Medicinal Chemistry*, vol. 39, No. 1, 1996, pp. 237–245.

Primary Examiner—William R. A. Jarvis
Attorney, Agent, or Firm—Nelsen L. Lentz; Arleen Palmberg

[57] **ABSTRACT**

The present invention provides a method for treating pain using a composition comprising certain phenyl oxazoles or phenyl thiazoles in combination with a Drug Useful in the Treatment of Pain.

38 Claims, No Drawings

The present invention provides a method for treating pain using a composition comprising certain phenyl oxazoles or phenyl thiazoles in combination with a Drug Useful in the Treatment of Pain.

Method and apparatus for refetching data

Assignee: Apple, Inc.

Patented: Oct. 5, 2010

Patent No.: 7,809,893

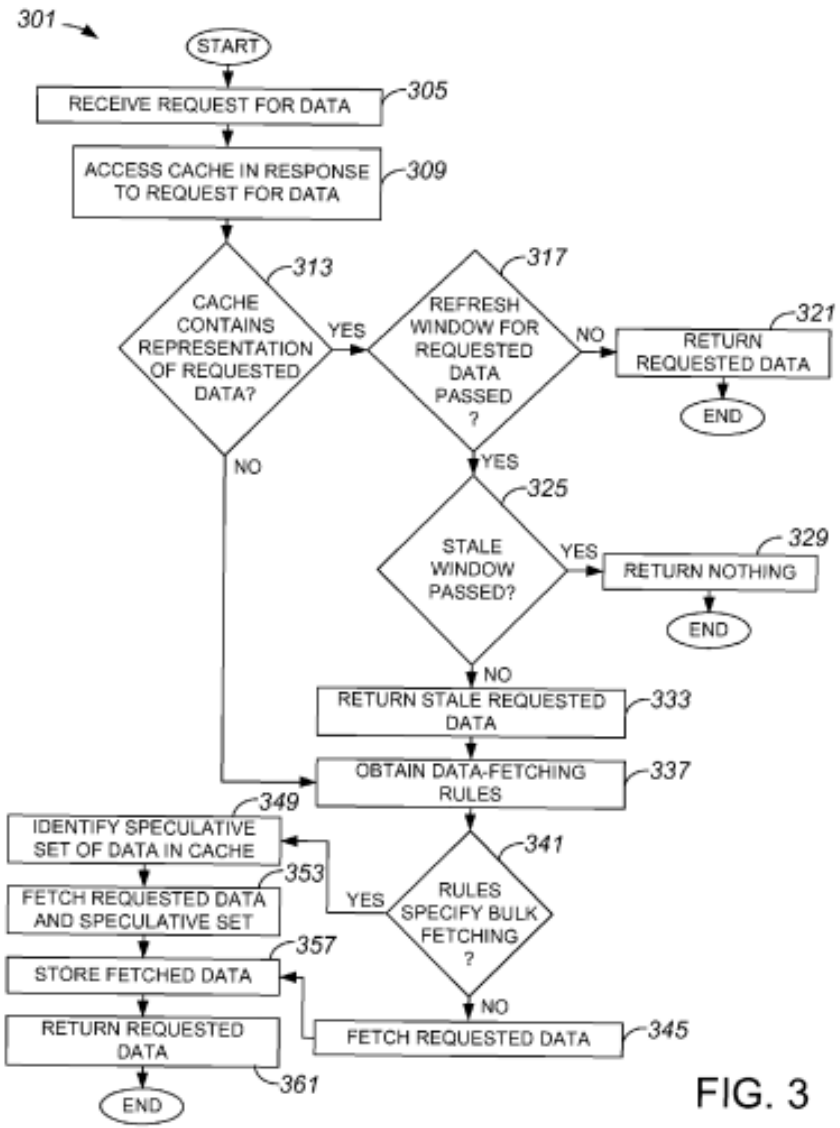


FIG. 3

processes (methods)

- Probe sensor with multi-dimensional optical grating
- Inventor: Wang, Zhong L. et al
- Assignee: *Georgia Tech* Research Corporation
- Patent No.: 7,808,656
- Patented: Oct. 5, 2010

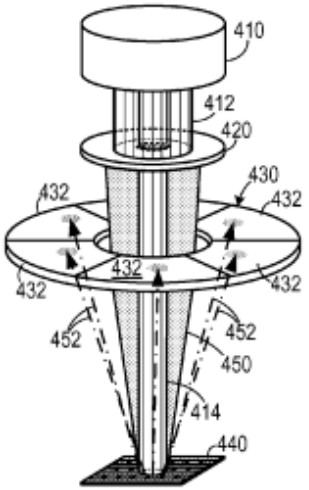


FIG. 4A

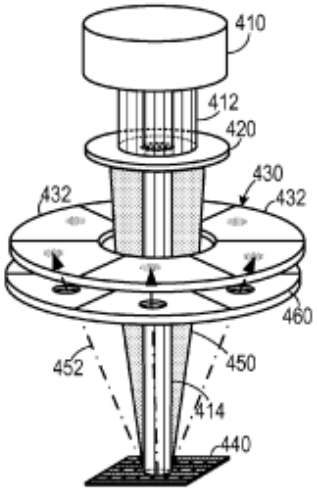


FIG. 4B

FIG. 4C

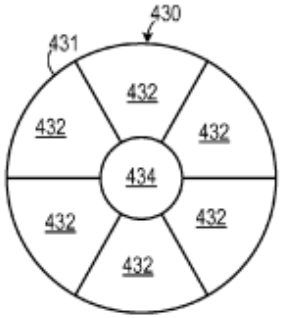


FIG. 4D

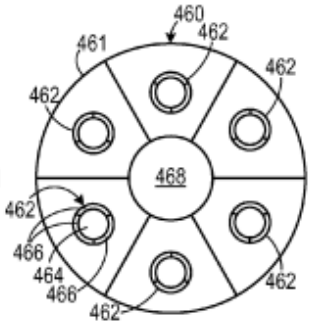


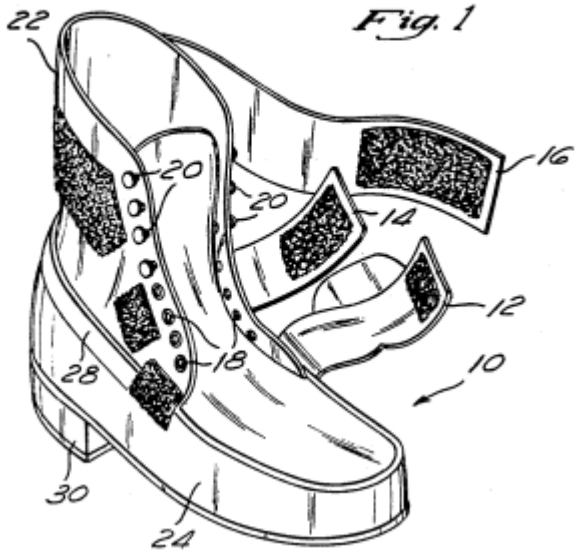
FIG. 4E

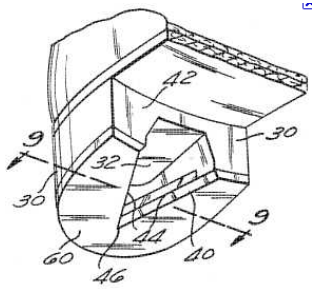
Method and Means for Creating Anti-gravity Illusion

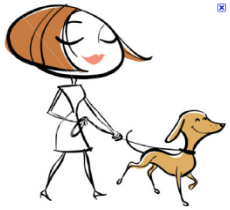
Inventor: Michael J. Jackson

US Patent No.: 5,255,452

Granted: Oct. 26, 1993







Walk the Dog

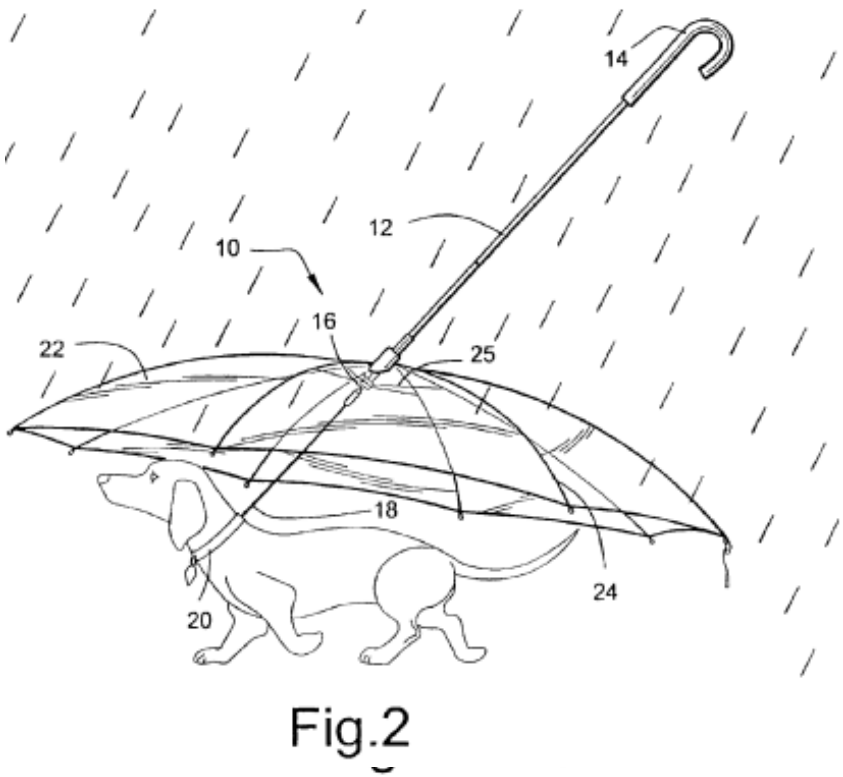
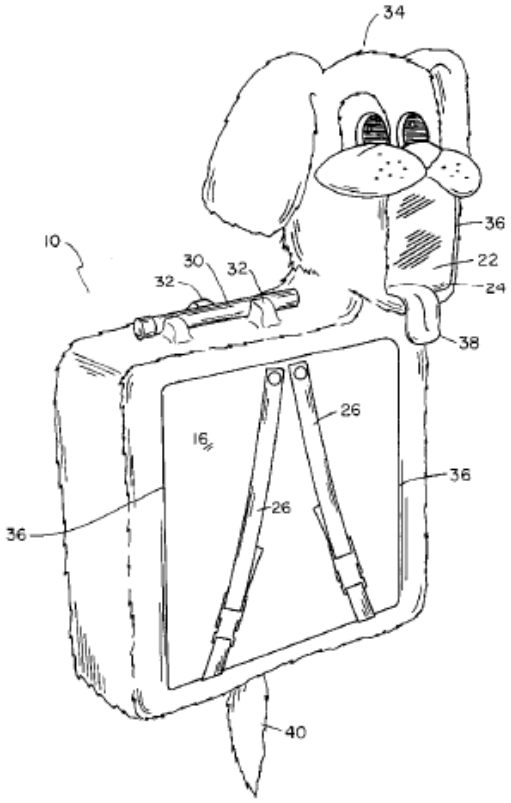


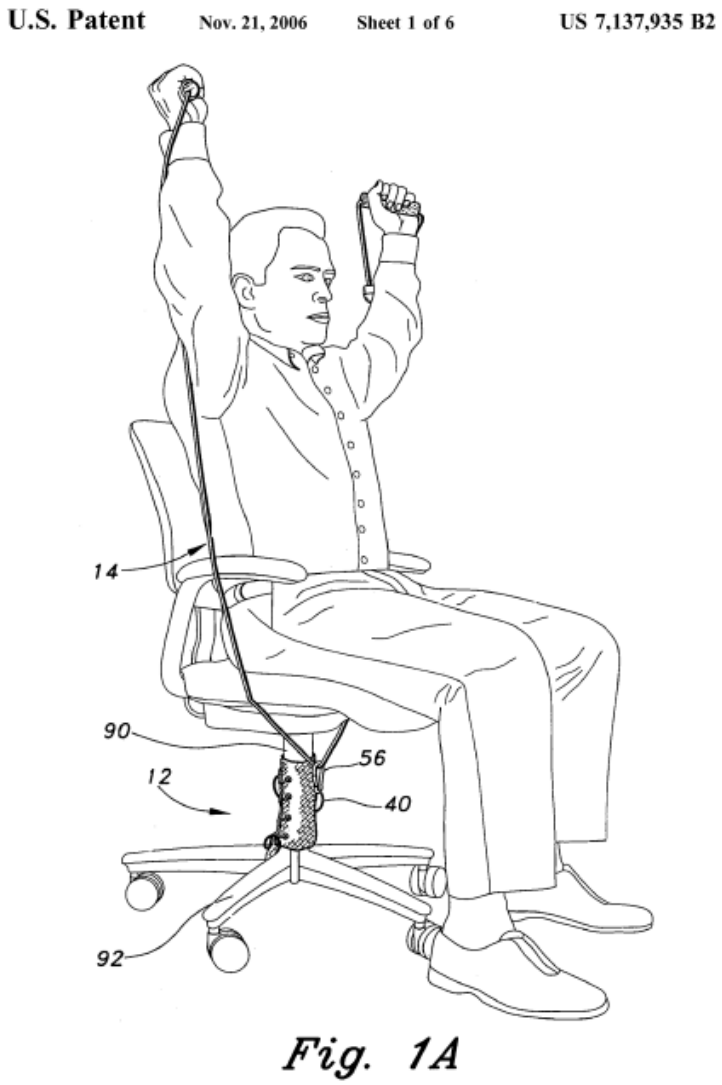
Fig.2

- Pet Umbrella and Combined Pet Leash and Umbrella
- Patent No.: 6,871,616
- Patented: Mar. 29, 2005
- USPC: 119/795

- **Halloween backpack**
  Patent No.: 5878931
  Patented: March 9, 1999



Beerbrella
Patent No.: 6,637,447
Patented: Oct. 2003

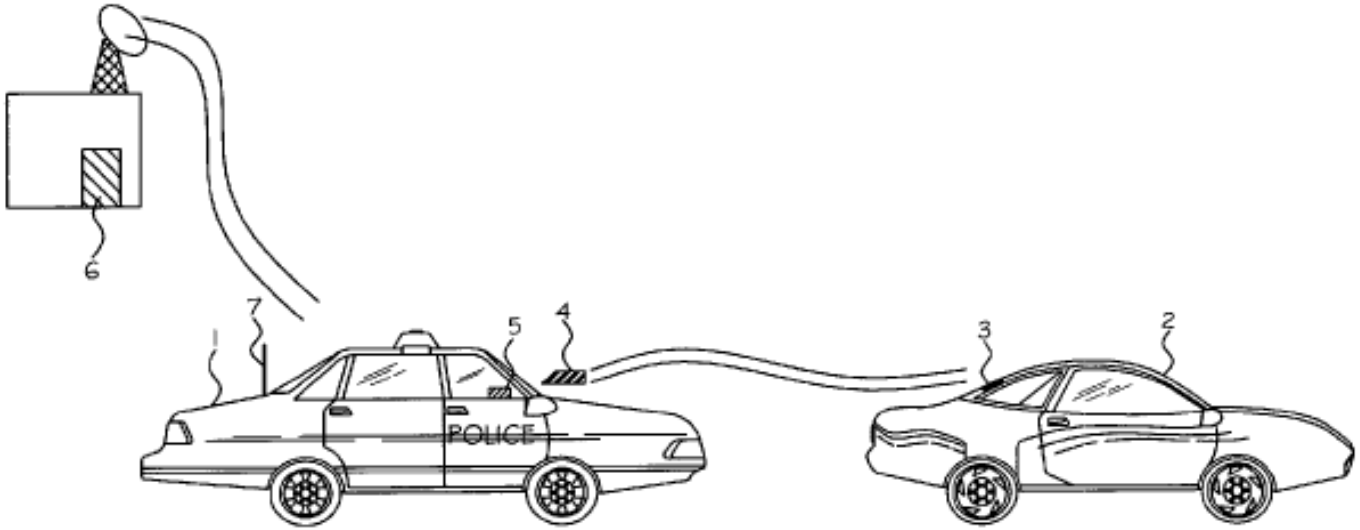


- Office Gym Exercise Kit
- U.S. Patent # 7,137,935
- Patented: Nov. 21, 2006

Method of stopping a stolen car without a high-speed chase, utilizing a bar code

Patented: Sep. 19, 2006

Patent No.: 7,108,178



- A safe method of stopping a stolen car without chasing at high speeds, utilizing a bar code implanted between the inner layer and outer layer of a rear safety glass is comprised of steps: 1) scan the barcode, 2) compare the read in barcode with those of the stolen cars stored in the police computer net, 3) trigger one of the three stopping means of this invention. Those three stopping means are: 1) turn off the engine, 2) puncture the rear tires with bullets, and 3) puncture the rear tires by mechanical means.

Design Patent

Surface Pattern Applied to a Doughnut Pastry

Claim:
The ornamental design for a surface pattern applied to a doughnut pastry, as shown and described.

US00D458003S

(12) **United States Design Patent** (10) **Patent No.: US D458,003 S**
Weldon et al. (45) **Date of Patent: ** Jun. 4, 2002**

(54) **SURFACE PATTERN APPLIED TO A DOUGHNUT PASTRY**

(76) Inventors: **Thomas Paul Weldon**; **Kristen Marie Weldon**; **Kerry Rebecca Weldon**, all of 9026 Roseton La., Charlotte, NC (US) 28277

(**) Term: **14 Years**

(21) Appl. No.: **29/125,521**

(22) Filed: **Jun. 26, 2000**

(51) **LOC (7) Cl.** **01-01**
(52) **U.S. Cl.** **D1/129**
(58) **Field of Search** D1/100, 101, 120–130, D1/199; 426/302–310, 659–661, 383, 89–104, 249, 274, 275, 549, 556, 496, 499

(56) **References Cited**

U.S. PATENT DOCUMENTS

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D418,964 S 1/2000 Biton

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Krispy Kreme Internet Site, pp. 1 and 2 http://www.krispykreme.com/taste.html.
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Restaurant Pastries and Desserts, Mimi Melek Editor, (New York, NY, Van Nostrand Reinhold), sorbet and coulis panach on p. 321, © 1996.*
Day, Martha, Consulting Editor. The Practical Encyclopedia of Baking, (New York, Barnes & Noble, Inc.), chocolate–orange angel food cake, p. 328, 1999.*

* cited by examiner

Primary Examiner—Alan P. Douglas
Assistant Examiner—Linda Brooks
(74) *Attorney, Agent, or Firm*—Kevin Weldon

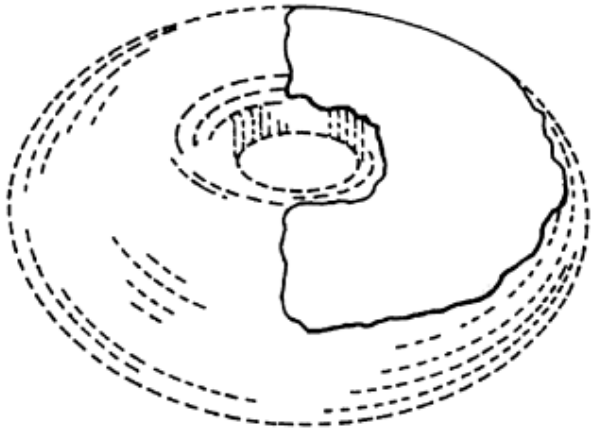
(57) **CLAIM**

The ornamental design for a surface pattern applied to a doughnut pastry, as shown and described.

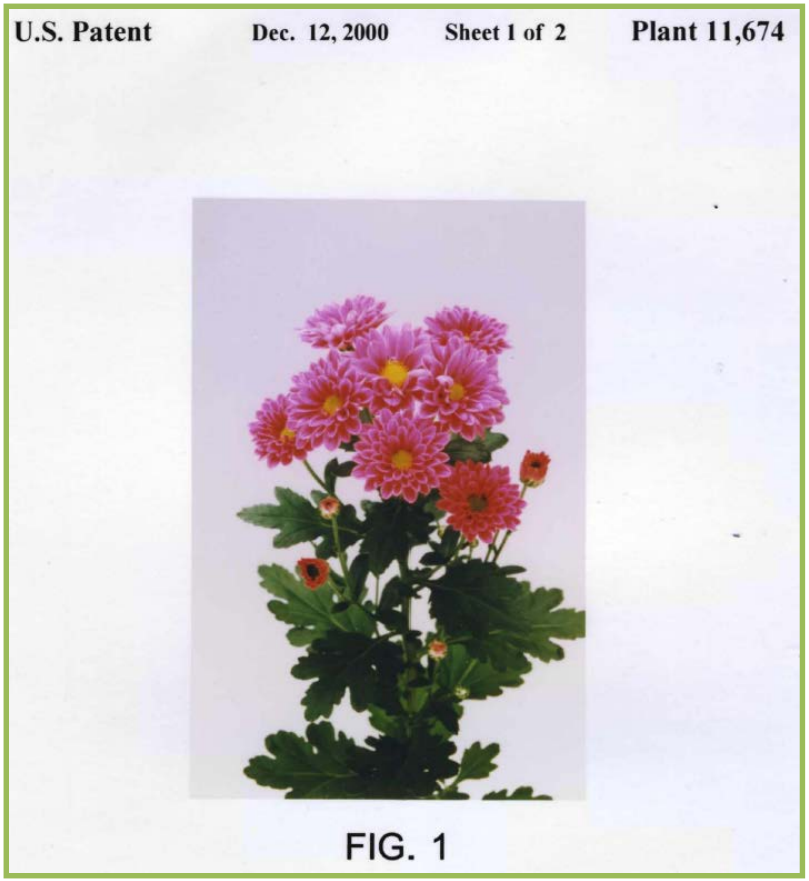
DESCRIPTION

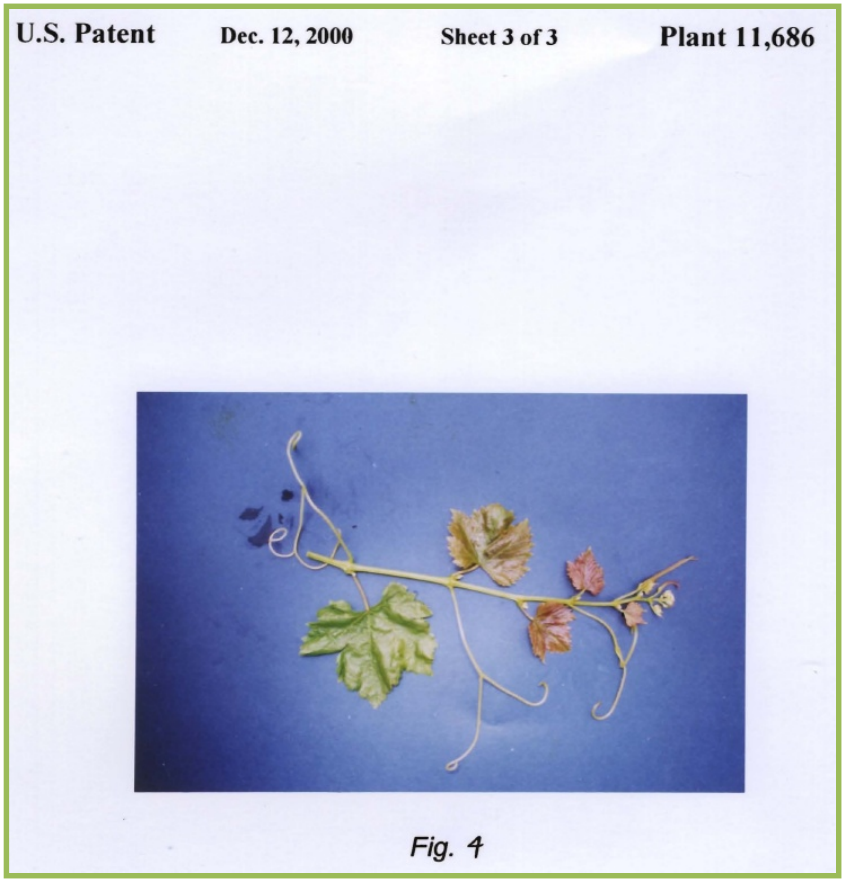
FIG. **1** is a top side perspective view of a surface pattern applied to a doughnut pastry showing our new design;
FIG. **2** is a top plan view thereof;
FIG. **3** is a front elevational view thereof;
FIG. **4** is a right side elevational view thereof;
FIG. **5** is a left side elevational view of the environmental doughnut pastry; and,
FIG. **6** is a bottom plan view of the environmental doughnut pastry.
The doughnut pastry is shown in broken lines for illustrative purposes only and forms no part of the claimed design.

1 Claim, 3 Drawing Sheets



Plant Patent Examples





Asexual reproduction: "Creating a plant using techniques such as grafting, budding, or using cuttings, layering, or division without using seeds. Plant offspring will be substantially identical to the parent."

US Patent Classification (USPC) System

- A Patent Classification is a code which provides a method for categorizing the invention.
- A classification is used both as a tool for finding patents (patentability searches), and for assisting in the patent application examination purposes.
- USPC consists of over *450 classes* and *100,000 subclasses*

- Revised continuously to reflect the changing technologies
- Format: **Class / Subclass**
- US-to-IPC Concordance – relates individual USPC classes and subclasses to the most closely corresponding IPC classifications
- *Just released (Oct. 25, 2010): USPTO and EPO work toward Joint Patent Classification System to align the U.S. and the EPO classification systems with the IPC*

USPC Example

Class 73
MEASURING AND TESTING

504.02.Angular rate using gyroscopic or Coriolis effect:
This subclass is indented under subclass 488. Subject matter wherein the determination of the time rate of change in position of the body is made by (1) rotating or (2) linearly moving an inertial element with respect to the body and measuring reaction forces on the element produced by rotation of the body about an axis of rotation.

504.12..Vibratory mass:
This subclass is indented under subclass 504.02. Subject matter wherein the inertial member is caused to rapidly reciprocate or oscillate about an axis of motion.

Manual of Patent Classification

488		SPEED, VELOCITY, OR ACCELERATION
489	·	Recording or registering interrelated factors
490	·	With distance registering means
491	·	With means for retaining reading
492	··	Maximum acceleration
493	·	Structural installation or mounting means
494	··	Installed in rotary speed source
495	·	Indicating diverse conditions
496	·	Vibration control or antistick means for reading structure
497	·	Temperature compensator
498	·	Adjusting means for reading stru
499	·	Illuminated reading device
500	·	Liquid surface is or moves readi
501	··	Surface of revolving liquid body
502	·	Externally connected pressure gauge gives reading
503	·	Means integrating time and acceleration
503.3	··	Gyroscope
504.01	·	Angular rate using wave or beam motion (e.g., Sagnac type)
504.02	·	Angular rate using gyroscopic or Coriolis effect
504.03	··	Multisensor for both angular rate and linear acceleration
504.04	···	Vibratory mass
504.05	··	Fluid or fluent inertial mass (e.g., electrons, ions, plasma)
504.06	···	Fluid jet
504.07	···	Rotary
504.08	··	Rotary gyroscope
504.09	···	Gimbal support
504.11	···	Flexible rotor or flexibly mounted rotor
504.12	··	Vibratory mass
504.13	···	Hollow circular-shaped inertial element
504.14	···	Elongated element with spaced supports
504.15	···	Cantilever
504.16	····	Tuning fork

Hierarchical System

Patent Search Template for Class 73: An Example

- U.S. patent resources
- Foreign patent resources
- Non-patent literature resources:
  - American National Standards Institute
  - ASTM International
  - DIALINDEX
  - IBM Technical Disclosure Bulletin
  - IEEE Xplore
  - Inspec (The Database for Physics, Electronics and Computing)
  - IP.com
  - JICST-EPlus - Japanese Science & Technology
- Non-patent literature resources (cont'd):
  - NIST
  - STN index
  - Experimental methods for engineers
  - Mechanical measurements
  - Theory and design for mechanical measurements
  - Ultrasonic testing of materials
- Internet search tools:
  - Google
  - Scirus
  - Yahoo!

(http://www.uspto.gov/web/patents/searchtemplates/class073-all.htm)

USPC Example

Class 903 HYBRID ELECTRIC VEHICLES (HEVS)

Click here for a printable version of this file

Turn Outline OFF

Select Largest Indent Level to be Displayed Select Expansion Level: Submit

CROSS-REFERENCE ART COLLECTIONS

-	902	**PRIME MOVERS COMPRISING ELECTRICAL AND INTERNAL COMBUSTION MOTORS (EPO/JPO)**
-	903	· Having energy storing means (e.g., battery, capacitor) (EPO/JPO)
-	904	·· Component specially adapted for HEV (EPO/JPO)
	905	··· Combustion engine (EPO/JPO)
	906	··· Motor or generator (EPO/JPO)
	907	··· Electricity storage (e.g., battery, capacitor) (EPO/JPO)
	908	··· Fuel cell (EPO/JPO)
-	909	··· Gearing (EPO/JPO)
-	910	···· Orbital (e.g., planetary gears) (EPO/JPO)
	911	····· With two or more gear sets (EPO/JPO)
-	912	··· Drive line clutch (EPO/JPO)
	913	···· One way (EPO/JPO)
	914	···· Actuated (e.g., engaged or disengaged by electrical, hydraulic or mechanical means) (EPO/JPO)
-	915	··· Specific drive or transmission adapted for HEV (EPO/JPO)
	916	···· With plurality of drive axles (EPO/JPO)
-	917	···· With transmission for changing gear ratio (EPO/JPO)
	918	····· Continuously variable (EPO/JPO)
	919	····· Stepped shift (EPO/JPO)
	930	·· Conjoint control of different elements (EPO/JPO)
	944	·· Characterized by control of fuel cell (EPO/JPO)
	945	·· Characterized by control of gearing (e.g., control of transmission ratio) (EPO)
	946	·· Characterized by control of driveline clutch (EPO/JPO)
	947	·· Characterized by control of braking (e.g., blending of regeneration, friction braking) (EPO/JPO)
	951	·· Assembly or relative location of components (EPO/JPO)
	952	·· Housing details (EPO/JPO)
	960	·· Having chargeable mechanical accumulator (EPO/JPO)

Newer class added:
Class 903
Established: Aug. 2005
CROSS-REFERENCE ART COLLECTION(S):
902-927, 930, 940-948, 951, 952, 960

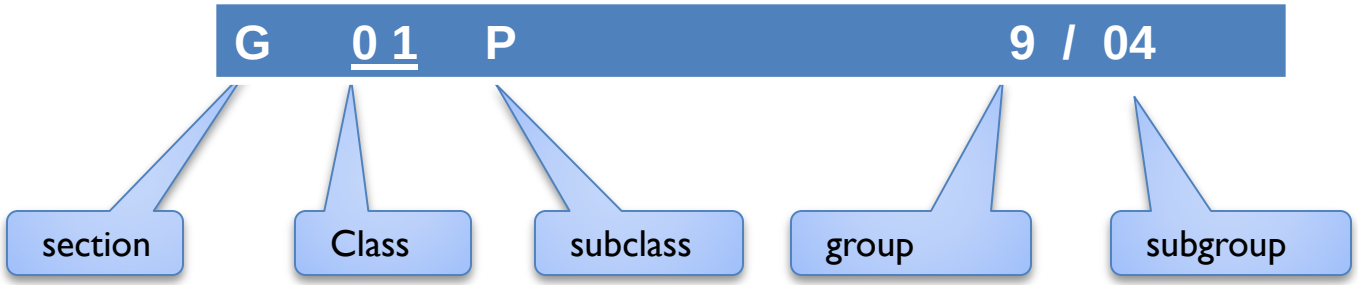
International Patent Classification (IPC) System

- The IPC divides technology into eight sections with **~71,000** subdivisions.
- Provides an internationally uniform classification of patent documents
- Hierarchical arrangement
- Indispensable for the retrieval of patent documents in the search for **"prior art."**
- Used by patent-issuing authorities, potential inventors, research and development units, and others concerned with the application or development of technology.

IPC Sections

IPC | Definitions | Illustrations | RCL | Catchwords

A	SECTION A — HUMAN NECESSITIES
B	SECTION B — PERFORMING OPERATIONS; TRANSPORTING
C	SECTION C — CHEMISTRY; METALLURGY
D	SECTION D — TEXTILES; PAPER
E	SECTION E — FIXED CONSTRUCTIONS
F	SECTION F — MECHANICAL ENGINEERING; LIGHTING; HEATING; WEAPONS; BLASTING
G	SECTION G — PHYSICS
H	SECTION H — ELECTRICITY



IPC Group/Subgroup Example

SECTION G — PHYSICS

Note(s)

1. In this section, the following term is used with the meaning indicated:
   - "variable" (as a noun) means a **feature** or property (e.g., a dimension, a physical condition such as temperature, a quality such as density or colour) which, in respect of a particular entity (e.g., an object, a quantity of a substance, a beam of light) and at a particular instant, is capable of being measured; the variable may change, so that its numerical expression may assume different **values** at different times, in different conditions or in individual cases, but may be constant in respect of a particular entity in certain conditions or for practical purposes (e.g., the length of a bar may be regarded as constant for many purposes).
2. Attention is drawn to the definitions of terms or expressions used, appearing in the notes of several of the classes in this section, in particular those of "measuring" in class **G01** and "control" and "regulation" in class **G05**.
3. Classification in this section may present more difficulty than in other sections, because the distinction between different fields of use rests to a considerable extent on differences in the intention of the user rather than on any constructional differences or differences in the manner of use, and because the subjects dealt with are often in effect systems or combinations, which have **features** or parts in common, rather than "things", which are readily distinguishable as a whole. For example, information (e.g., a set of figures) may be displayed for the purpose of education or advertising (**G09**), for enabling the result of a measurement to be known (**G01**), for signalling the information to a distant point or for giving information which has been signalled from a distant point (**G08**). The words used to describe the purpose depend on **features** that may be irrelevant to the form of the **apparatus** concerned, for example, such **features** as the desired effect on the person who sees the display, or whether the display is controlled from a remote point. Again, a device which responds to some change in a condition, e.g., in the pressure of a fluid, may be used, without modification of the device itself, to give information about the pressure (**G01L**) or about some other condition linked to the pressure (another subclass of class **G01**, e.g., **G01K** for temperature), to make a record of the pressure or of its occurrence (**G07C**), to give an alarm (**G08B**), or to control another **apparatus** (**G05**).

The classification scheme is intended to enable things of a similar nature (as indicated above) to be classified together. It is therefore particularly necessary for the real nature of any technical subject to be decided before it can be properly classified.

G01P **MEASURING LINEAR OR ANGULAR SPEED, ACCELERATION, DECELERATION, OR SHOCK; INDICATING PRESENCE, ABSENCE, OR DIRECTION, OF MOVEMENT** (measuring or recording blood flow A61B 5/02, A61B 8/06; monitoring speed or deceleration of electrically-propelled vehicles B60L 3/00; vehicle lighting systems adapted to indicate speed B60Q 1/54; determining position or course in navigation, measuring ground distance in geodesy or surveying G01C; combined measuring devices for measuring two or more variables of movement G01C 23/00; measuring velocity of sound G01H; measuring velocity of light G01J 7/00; determining direction or velocity of solid objects by reflection or reradiation of radio or other waves and based on propagation effects, e.g. Doppler effect, propagation time, direction of propagation, G01S; measuring speed of nuclear radiation G01T; measuring acceleration of gravity G01V)

Note(s)

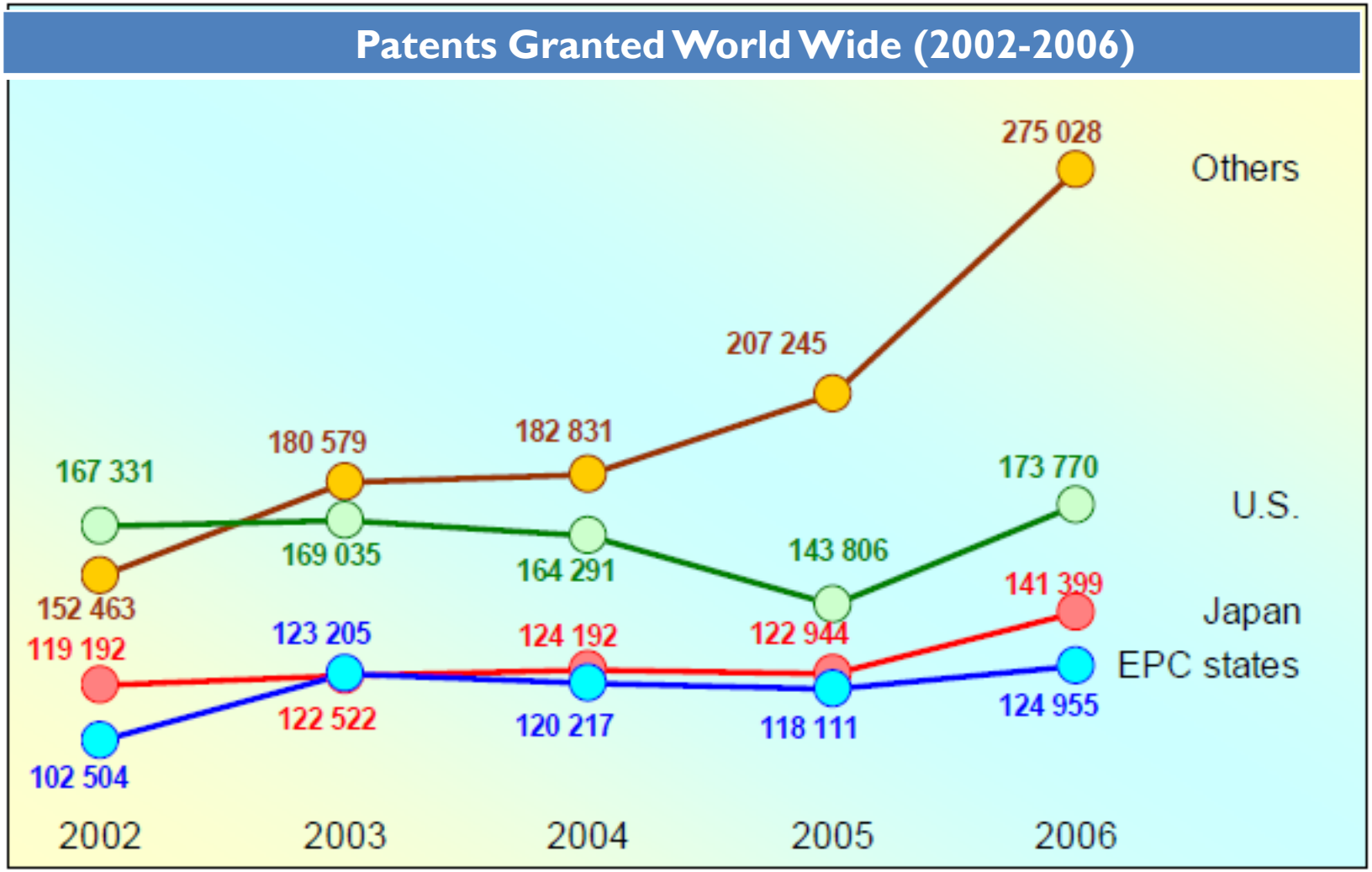
1. This subclass covers measuring direction or velocity of flowing fluids using propagation effects of radiowaves or other waves caused in the fluid itself, e.g. by laser anemometer, by ultrasonic flowmeter with "sing-around-system". **[4]**
2. Attention is drawn to the Notes following the title of class **G01**.

G01P 9/04 · using turn-sensitive devices with vibrating masses, e.g. tuning-fork

The Volume of Patent Information

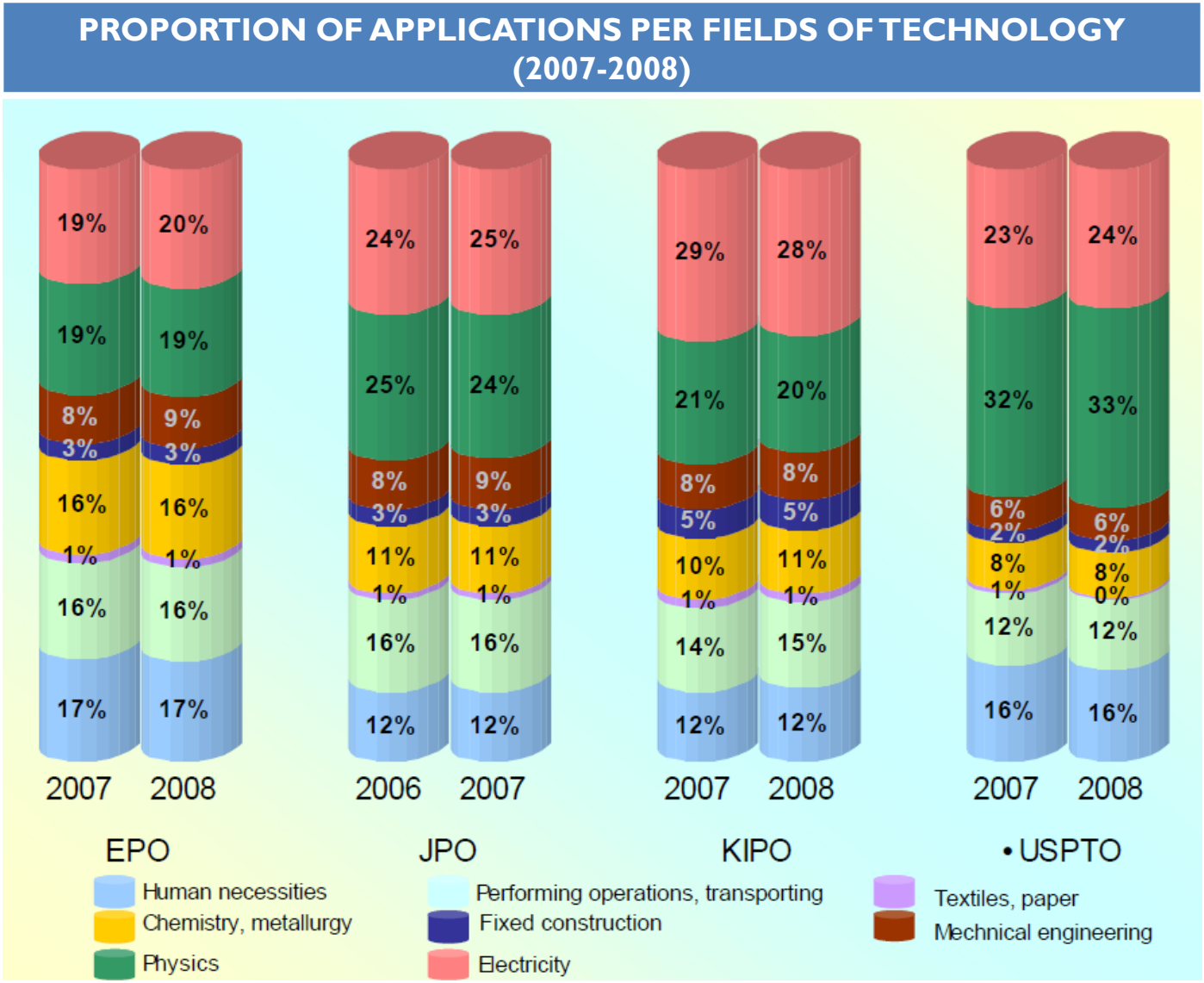
Number of patent applications filed world wide	1.5 million/year
Number of patent documents published from the beginning	~50 million
Total U.S. patents issued in FY2009	190,121
Average U.S. patent pendency (utility)	35 months
Average U.S. trademark pendency	13.5 months

International Patents Landscape



Source: The Trilateral Co-operation (http://www.trilateral.net/)

Proportion of Applications Per Fields of Technology

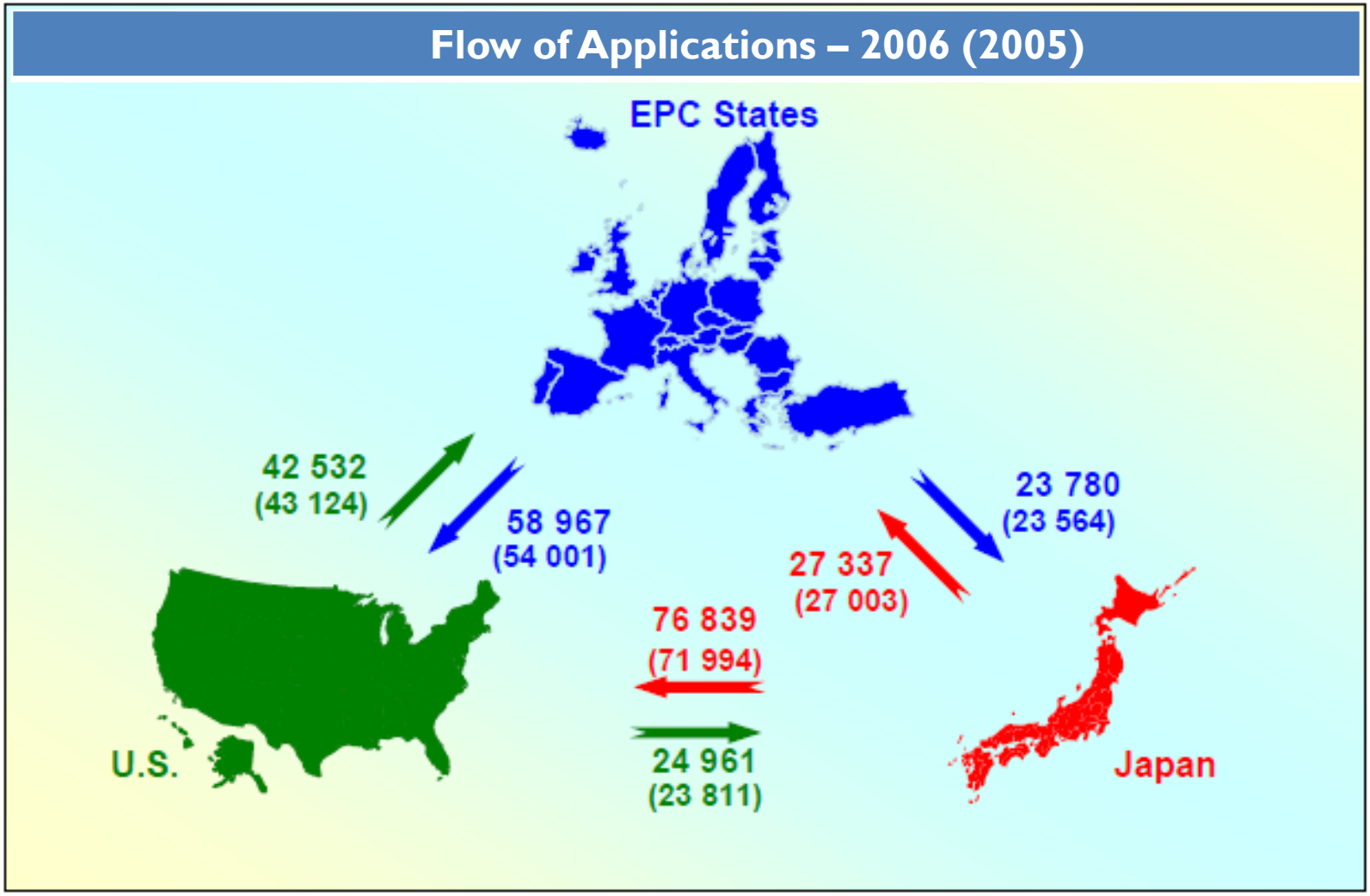


Source: The Trilateral Co-operation (http://www.trilateral.net/)

PCT: Patent Cooperation Treaty

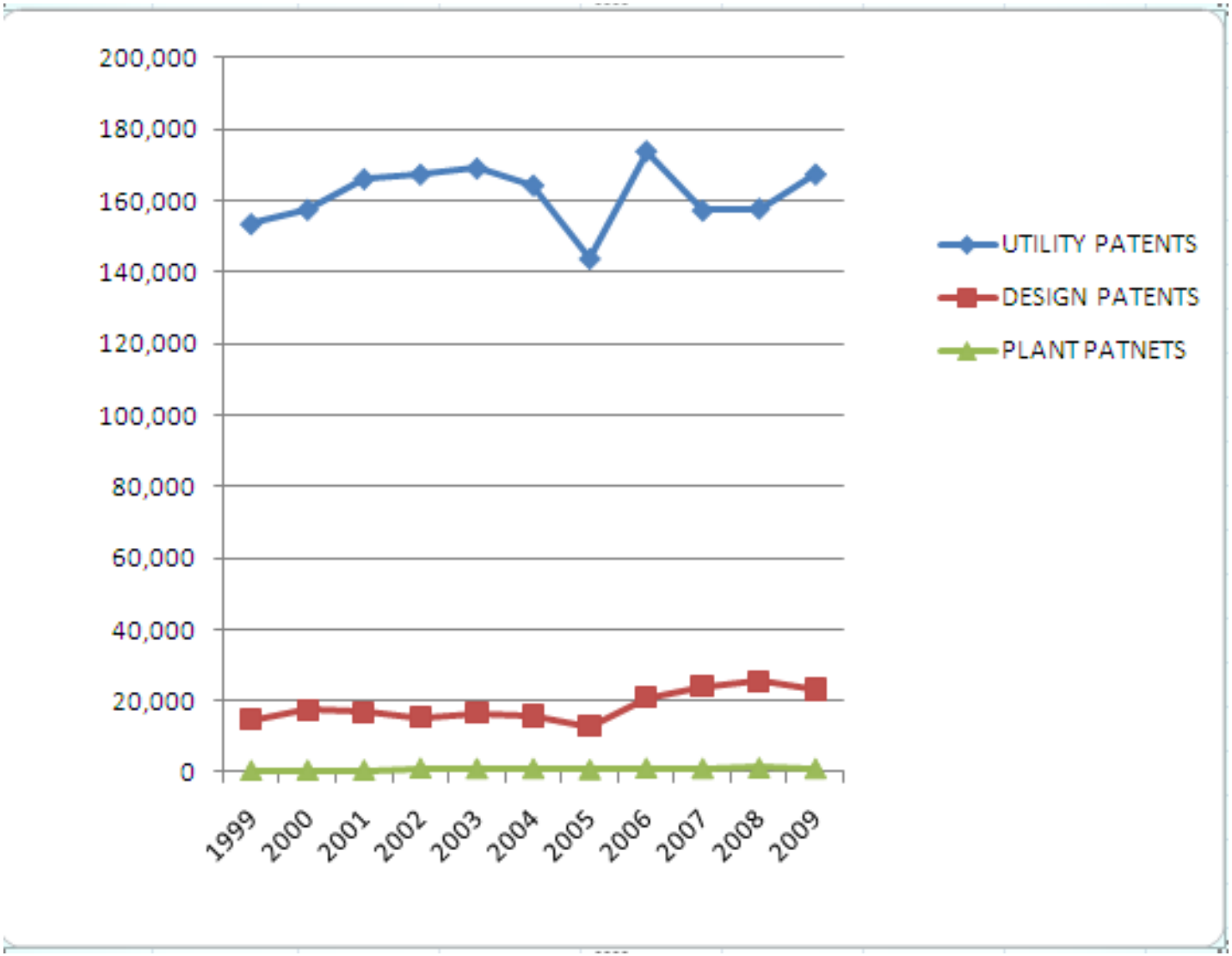
- **PCT application**
  - international application filed under the Patent Cooperation Treaty.
- **PCT Chapter II**
  - a chapter in the Patent Cooperation Treaty specifying the procedure where the applicant can request that an international preliminary examination be carried out by a competent International Preliminary Examination Authority.
- **PCT international search**
  - search carried out on a PCT international application to discover the documents or other types of disclosures that may affect the patentability of the claims.
- **PCT Protest**
  - a reasoned statement filed, together with the additional search or examination fee, by the applicant opposing a decision of lack of unity of invention made by the International Searching Authority or the International Preliminary Examining Authority.

Flow of Patent Applications

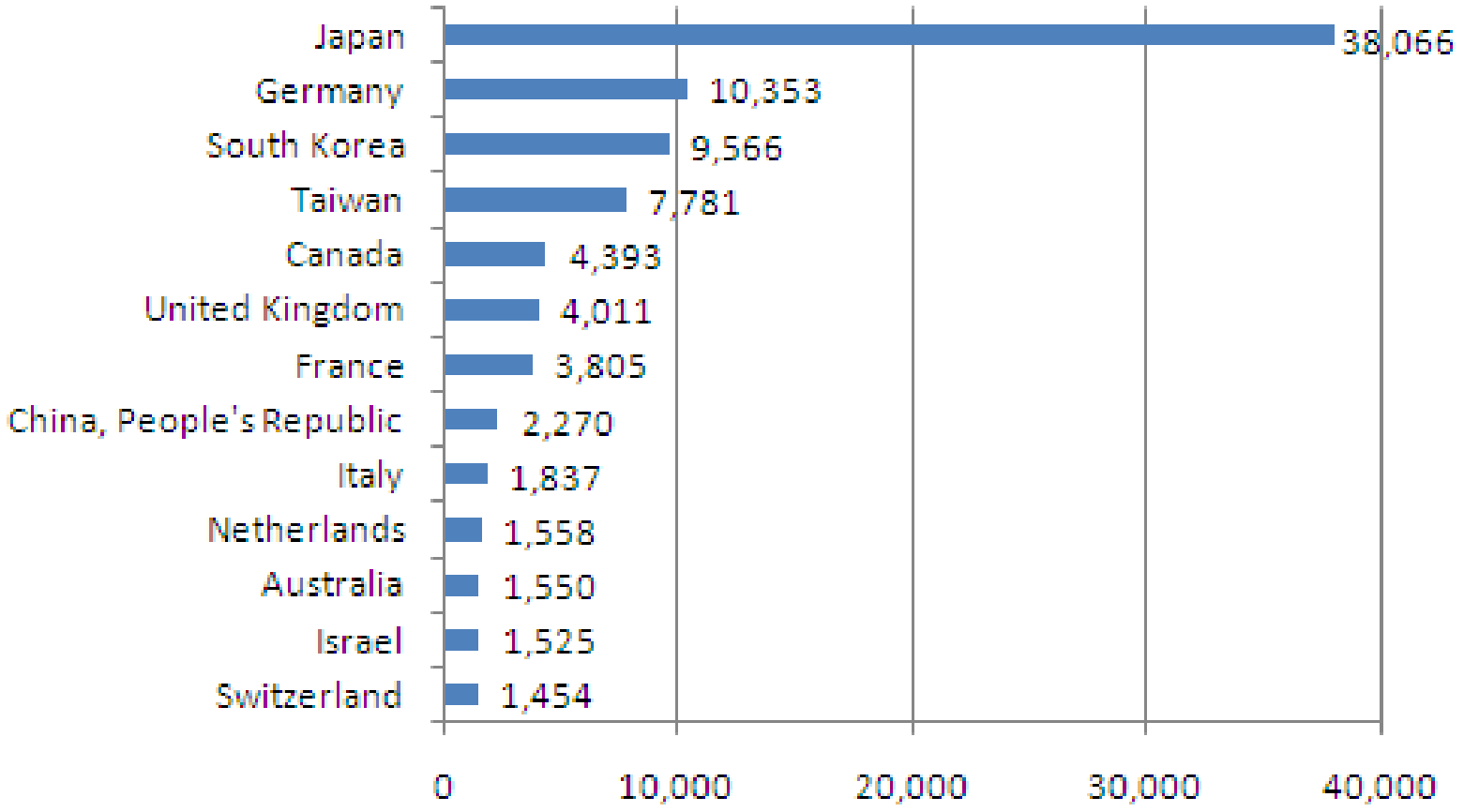


Source: The Trilateral Co-operation (http://www.trilateral.net/)

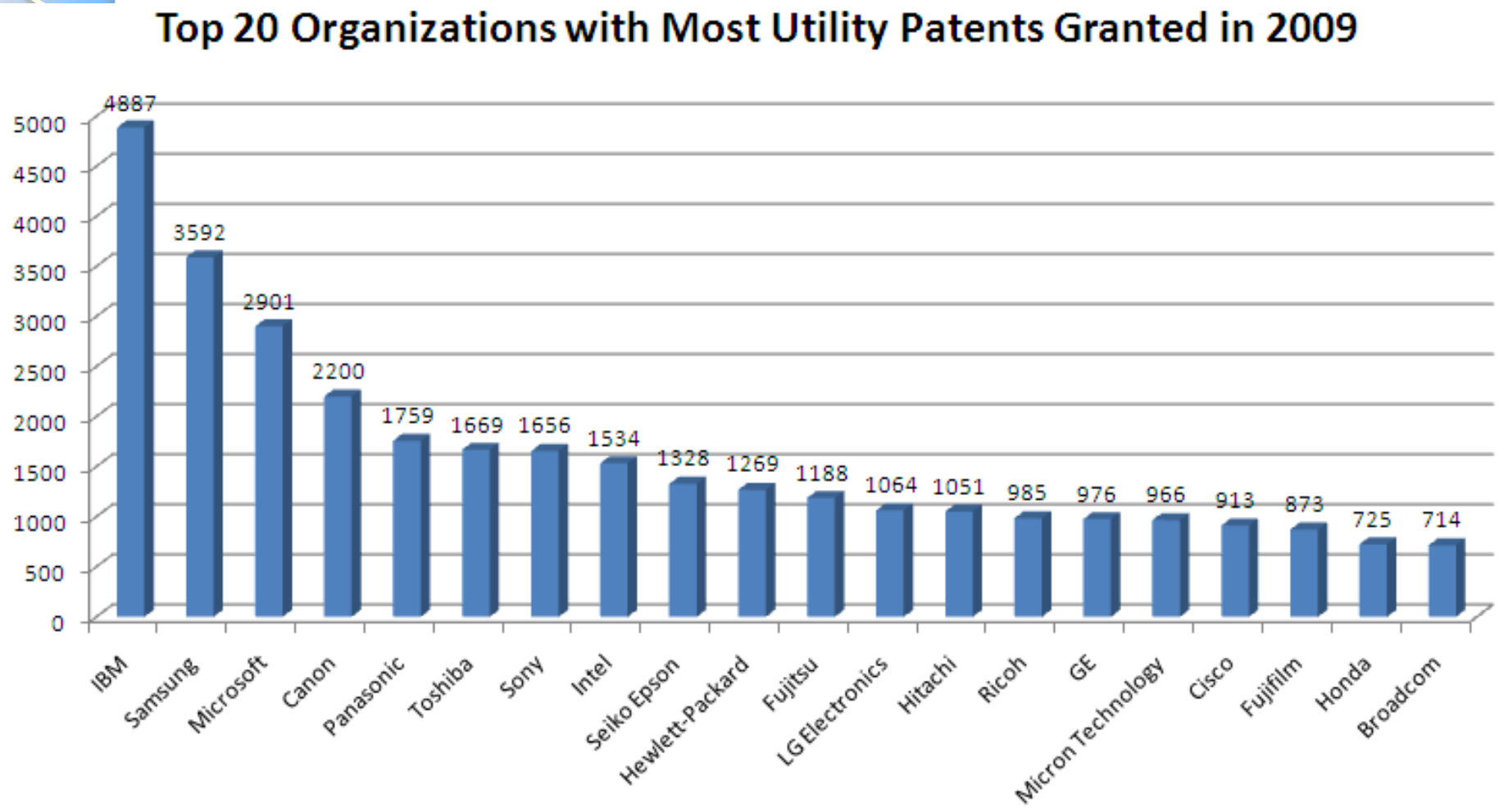
U.S. Patenting Trends (1999-2009)



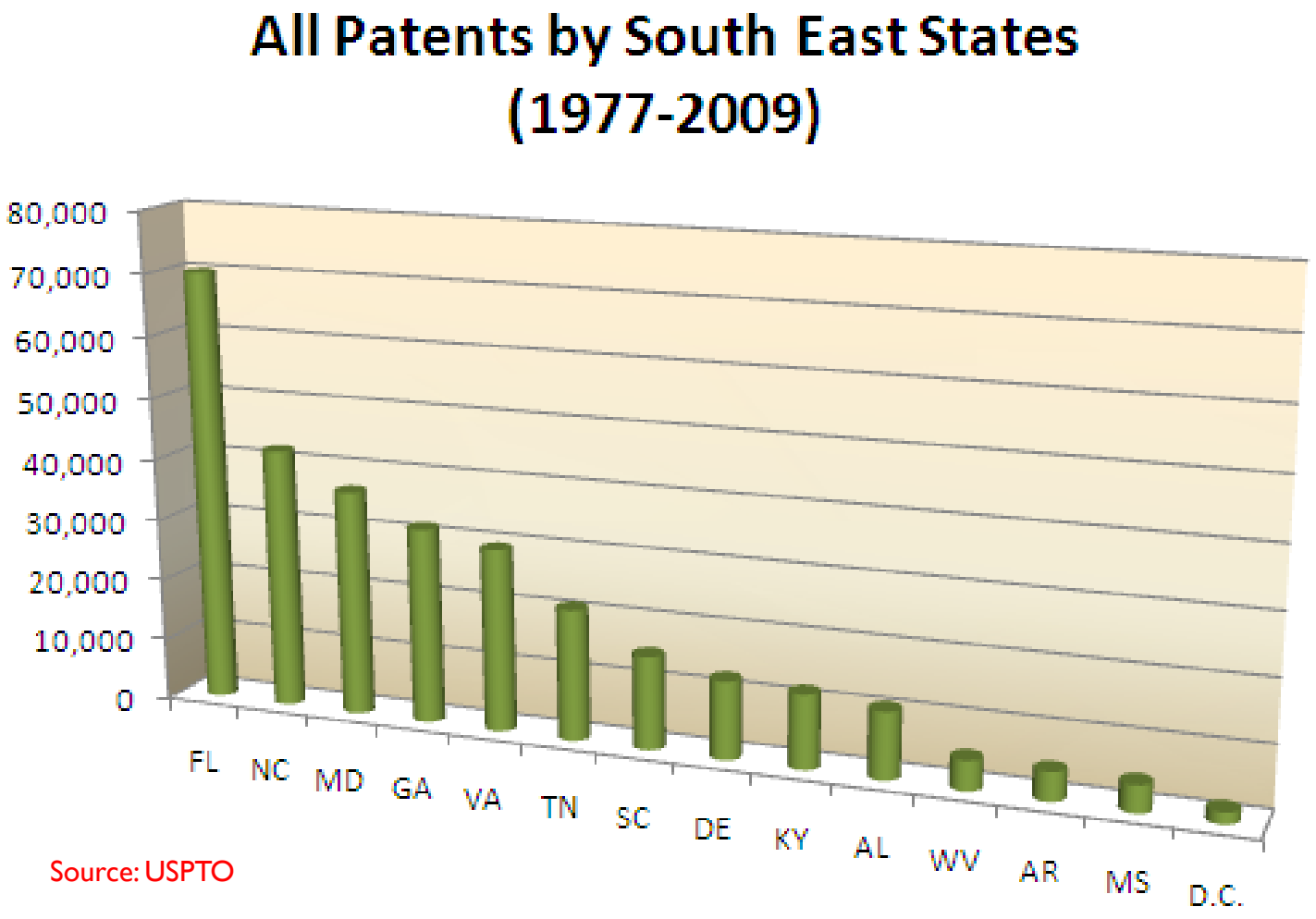
Top Countries of Origin Receiving the Most U.S. Patents in CY 2009



Top Organizations with Most U.S. Utility Patents

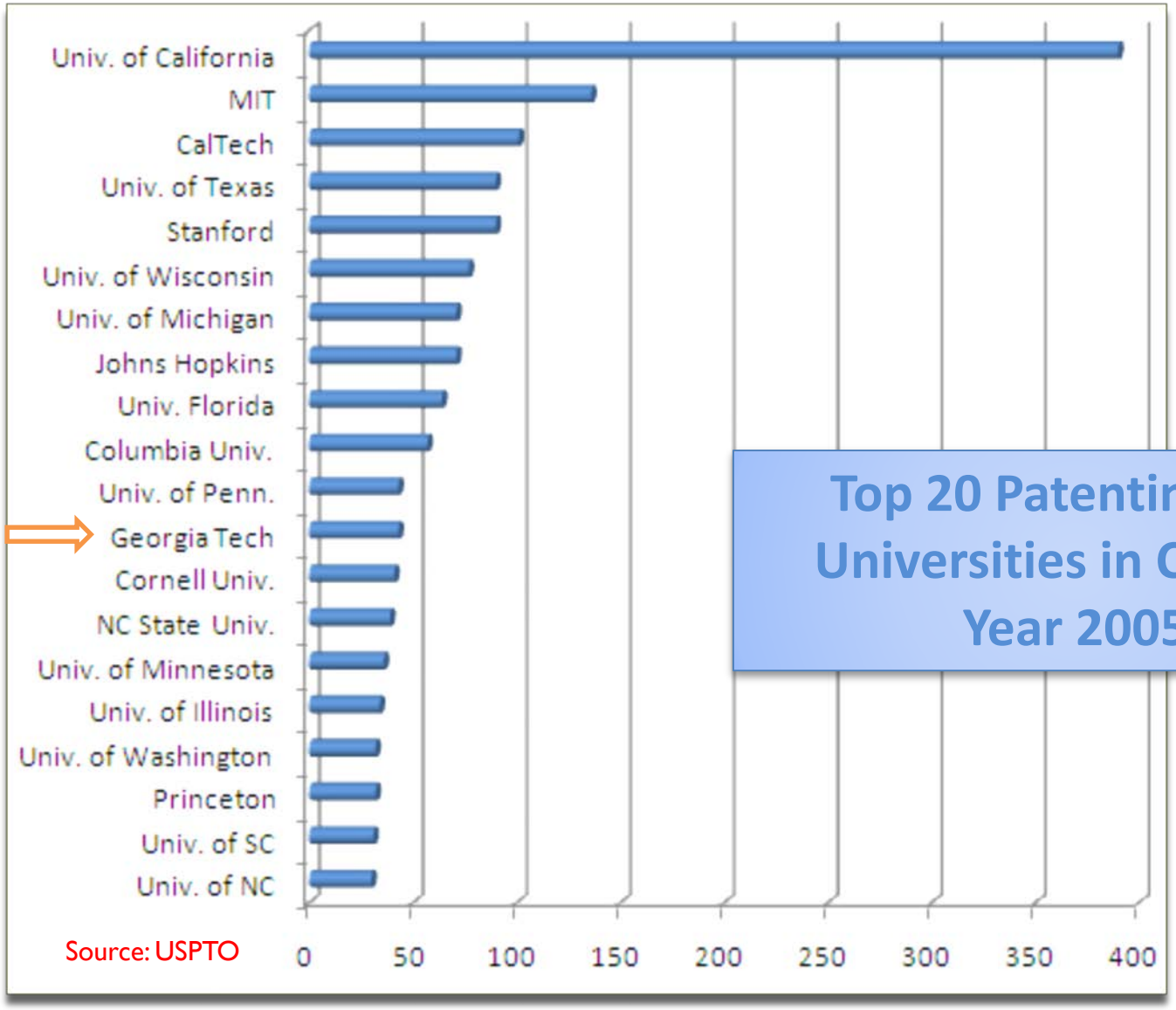


All Patents by South East States (By State)



Source: USPTO

Top Patenting U.S. Universities



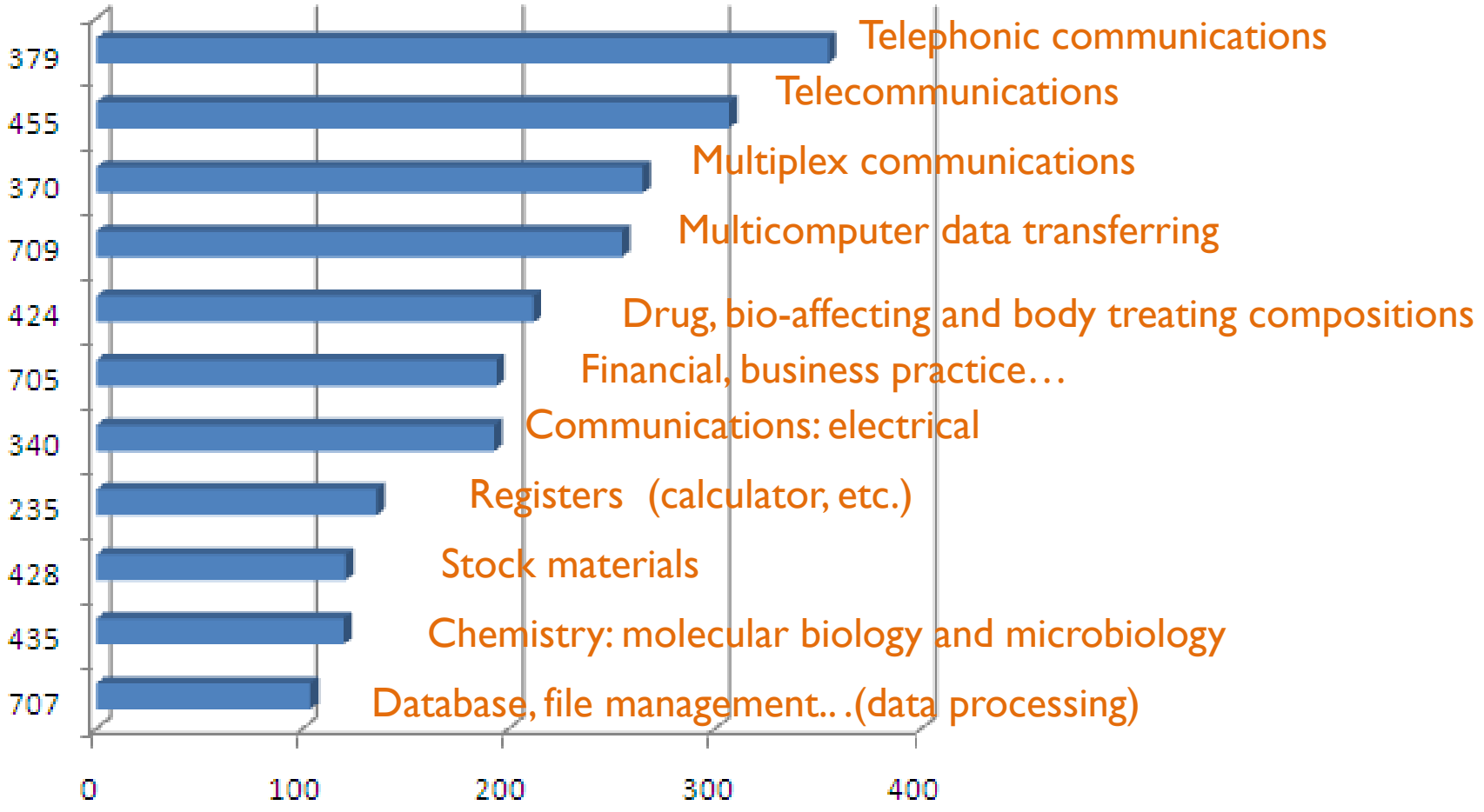
Top 20 Patenting U.S. Universities in Calendar Year 2005

Top Patenting Universities 2009

Ranking & Movement			Universities	Technology Strength™		Current Impact™		Science Linkage™		Innovation Cycle Time™		Patents Granted	
2008		2009	Includes subsidiaries and majority owned entities unless otherwise noted	2009	5-Year Average	2009	5-Year Average	2009	5-Year Average	2009	5-Year Average	2009	5-Year Average
2	△	1	MIT/Mass Inst of Technology	219	276	1.53	1.94	26.66	21.99	10.68	8.92	143	143
1	▽	2	University of California	213	350	0.79	0.90	33.14	22.11	9.84	8.84	271	383
4	△	3	Stanford University	143	136	1.13	1.34	17.83	18.50	8.78	7.99	127	102
3	▽	4	California Inst of Technology	122	173	1.29	1.46	35.48	23.04	10.22	8.38	94	119
6	△	5	University of Texas	95	115	0.94	1.09	31.35	34.72	10.64	9.45	101	105
9	△	6	University of Wisconsin	92	73	0.79	0.83	18.93	18.34	10.09	7.98	117	87
23	△	7	University of North Carolina	77	50	1.11	1.13	35.75	25.32	10.37	8.79	69	44
11	△	8	Georgia Institute of Technology	74	67	1.23	1.40	10.38	9.38	9.78	8.39	60	48
14	△	9	Cornell University	63	54	0.85	1.02	28.07	25.69	9.85	8.74	74	54
12	△	10	University of Michigan	61	74	0.90	0.94	33.72	30.24	10.85	8.78	67	78

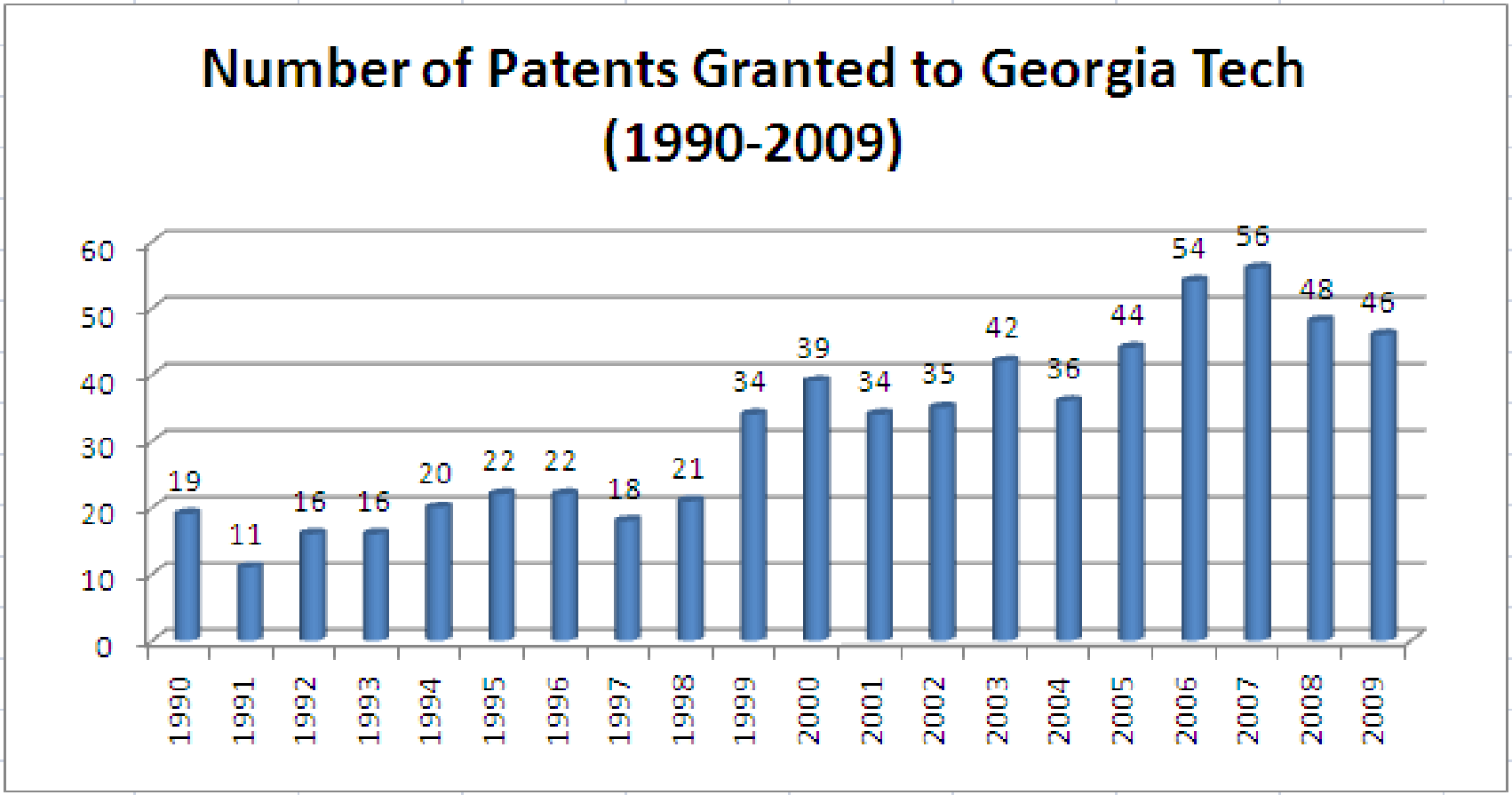
*Source: The Patent Board, data for July 2008-June 2009

Patenting by State – State of Georgia, Breakout by Top Technology Class



Source: USPTO

Patents Granted to Georgia Tech



Source: CASSIS

PTDLP and PTDL

- PTDLP: Patent and Trademark Depository Library Program
- Patent Act: 1870
- Congress ordered the Commissioner of Patents "to have copies of patents printed, some for free distribution to libraries." (Jan. 1871)
- Patent and Trademark Depository Library (PTDL) are authorized by *35 U.S.C. 12* to:
  - disseminate patent and trademark information
  - support diverse intellectual property needs of the public

PTDLP and PTDL (cont'd)

A PTDL is designated to:

- Receive and house copies of U.S. patents and patent and trademark materials
- Make them freely available to the public
- Actively disseminate patent and trademark information

Recognition as a PTDL is derived from the provisions of Title 35, Section 12 of the U.S. Code , which allows for the distribution of patent copies to libraries for an annual statutory fee of $50.

PTDLP and PTDL (cont'd)

- Early years: 22 libraries, mostly public libraries.
- Today: 80+ PTDLs, with about 50% in academic libraries.
- GT Library became a PTDL in 1946. It is the only PTDL in GA.

Obligations of PTDLs

- Pledge to acquire a minimum of a 20-year back file collection of U.S. utility patents issued 20 years prior to the date of designation.
- Make access to patents and trademarks and all other depository materials freely available to the public.
- Protect the integrity of the collection so that the patents and trademarks and other documents and publications provided to each PTDL by the USPTO remain available to the public.
- Maintain a collection of the classification systems and other patent and trademark related publications and documents which are critical to the effective utilization of patent and trademark files.

Obligations of PTDLs (cont'd)

- Retain any depository copies of patents until, at the initiative of the library, disposal of them has been arranged through the USPTO.
- The USPTO retains the right of first refusal to acquire any materials, including microform, being relinquished by a library, where such materials were acquired under the provision of *35 USC 12* .
- Be in a position to assist the public in the efficient use of the patent and trademark collections and of the associated information access tools.
- Provide institutional support to permit a PTDL representative to attend the annual USPTO-sponsored PTDL training seminars at the USPTO.

The Benefits of PTDL

- A rich local resource for university and governmental laboratories, small businesses, research and development firms, and independent inventors and entrepreneurs.
- An active PTDL brings the newest technology in the form of patents to many potential users in a city, state or entire region.
- Patents also provide a unique body of scientific and technical literature that adds value and stature to a library's collection.
- Access to trademark information provides a service in high demand by local businesses.
- The availability of high quality patent and trademark information services often attracts new communities of library users with the potential for new sources of library support.

Who Are the Users of PTDLs?

- Individual inventors
- Students
- Researchers
- Entrepreneurs
- Businessmen
- Patent attorneys and agents
- Historians
- General public

Research Topic Examples

- Patents related theses/dissertation by GT graduate students
  - An evaluation of U. S. patent literature pertaining to the production of titanium (CME thesis, 1956)
  - Patent statistics as technology indicators : analysis of the patenting of multinational enterprises selected from the USA, Japan and West Germany in the pharmaceutical and electrical power systems industries (HST thesis, 1983)
  - Patent pending : the perpetual American option (Eco thesis, 1995)
  - Uses and nonuses of patented inventions (PP Dissertation, 2009)

Source: SMARTech

Research Topic Examples (cont'd)

- Patents related articles/papers
  - Software Patents: Good News or Bad News? (CoM faculty working paper, 2004)
  - The R&D process in the US and Japan: Major findings from the RIETI-Georgia Tech Inventor Survey (PP faculty working paper, 2009)
  - An Analysis of Green Technology Innovation: A Case Study of Green New Deal Policy Initiative in South Korea 2009 (VT conference paper 2009)

Source: SMARTech

Examples of Questions

- "I want to find out if my grandfather had a patent on…."
- "Can you help me file a trademark registration?"
- "My daughter has a wonderful idea. How can she file a patent application?"
- "I would like to file a patent application for my idea. But I don't know too much about computers…"

Patents and Trademark Materials PTDLs Receive

- Utility, Design, Plant and Reissue Patents
- Reexamination Certificates
- Statutory Invention Registrations (SIRs*)
- Post-issue patent status information
- Access to the *Official Gazette of the U.S. Patent and Trademark Office* (both patent and trademark sections)
- All USPTO search tools, indices and directories

(All of the above are distributed in a variety of formats including: print, microfilm, microfiche, DVD and diskette.)

*An applicant for an original patent may request, at any time during the pendency of applicant's pending complete application, that the specification and drawings be published as a statutory invention registration.

Assistance PTDL librarians Provide

- A PTDL is **required** to assist the public in the efficient use of the patent and trademark collections and of the associated information access tools
- Training is offered to
  - classes of students
  - inventors
  - small business owners
  - researchers and other professionals

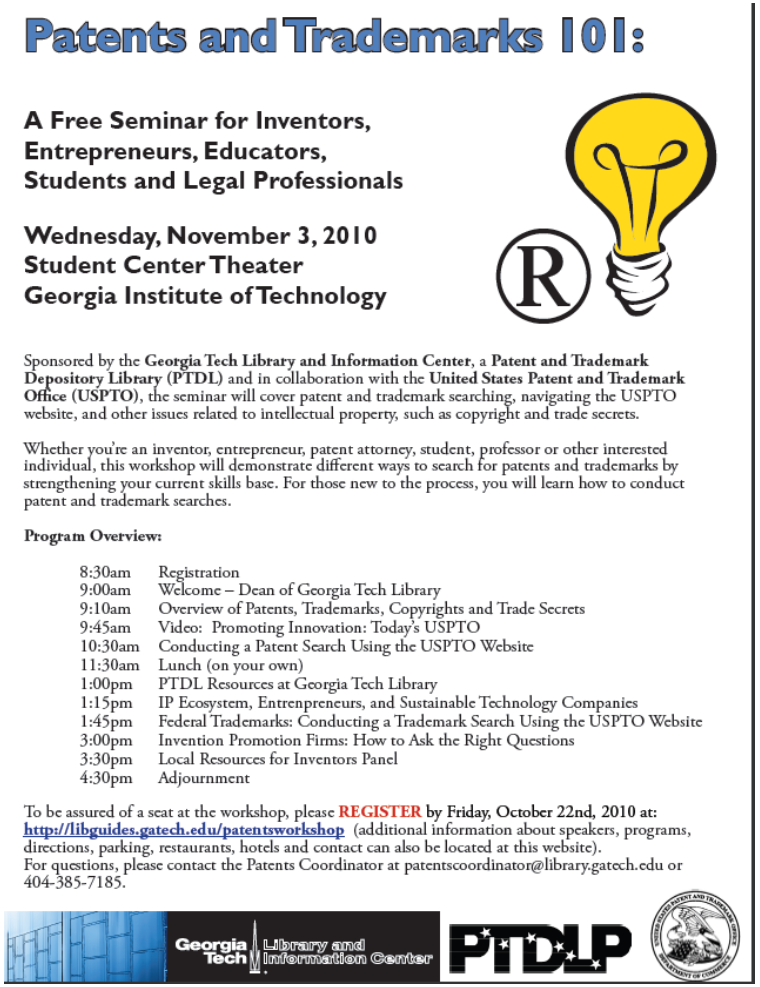
What We Don't Do at PTDL

- Offer legal advice
- Perform the patent search for an inventor
- Warrant the completeness of the search or the patentability of an invention
- Assist in writing the patent application
- Recommend a patent attorney
- *Ask about the details of an invention*

Services at Georgia Tech PTDL

- One-on-one training and assistance in classification searching to help inventors or researchers conduct their own patent or trademark search
  - walk-in
  - by appointment
    - Mon.-Fri., 8 am -6 pm
- Advice on non-patent databases to consult for prior-art search
- Classes
  - general
  - course-specific by request
- Seminars and workshops

Coming Up Workshops



Patents and Trademarks 101:

A Free Seminar for Inventors, Entrepreneurs, Educators, Students and Legal Professionals

Wednesday, November 3, 2010
Student Center Theater
Georgia Institute of Technology

Sponsored by the **Georgia Tech Library and Information Center**, a **Patent and Trademark Depository Library (PTDL)** and in collaboration with the **United States Patent and Trademark Office (USPTO)**, the seminar will cover patent and trademark searching, navigating the USPTO website, and other issues related to intellectual property, such as copyright and trade secrets.

Whether you're an inventor, entrepreneur, patent attorney, student, professor or other interested individual, this workshop will demonstrate different ways to search for patents and trademarks by strengthening your current skills base. For those new to the process, you will learn how to conduct patent and trademark searches.

Program Overview:

8:30am	Registration
9:00am	Welcome – Dean of Georgia Tech Library
9:10am	Overview of Patents, Trademarks, Copyrights and Trade Secrets
9:45am	Video: Promoting Innovation: Today's USPTO
10:30am	Conducting a Patent Search Using the USPTO Website
11:30am	Lunch (on your own)
1:00pm	PTDL Resources at Georgia Tech Library
1:15pm	IP Ecosystem, Entrenpreneurs, and Sustainable Technology Companies
1:45pm	Federal Trademarks: Conducting a Trademark Search Using the USPTO Website
3:00pm	Invention Promotion Firms: How to Ask the Right Questions
3:30pm	Local Resources for Inventors Panel
4:30pm	Adjournment

To be assured of a seat at the workshop, please **REGISTER** by Friday, October 22nd, 2010 at: http://libguides.gatech.edu/patentsworkshop (additional information about speakers, programs, directions, parking, restaurants, hotels and contact can also be located at this website).
For questions, please contact the Patents Coordinator at patentscoordinator@library.gatech.edu or 404-385-7185.

Georgia Tech Library and Information Center | PTDLP

- Patents and Trademarks Workshop on Nov. 3rd, 2010 at Student Center Theater – open to the public
- Researching Patent and Trademark Information - a hands-on seminar on Nov. 4th, 2010 at HRC – for librarians and staff

Patent Databases

- Free Online
  - USPTO web site
  - Google Patents (U.S. patents)
  - esp@cenet (EPO, international)
  - Patent Scope (WIPO, international applications)
  - Freepatentsonline (U.S., EPO, JPO, WIPO-PCT)
- PTDL Only
  - PubWEST
  - CASSIS

Electronic databases available worldwide from the USPTO*

- USPTO Web Patent Database
  - Full-page images of each page of all US patents issued since 1790
  - Full-text of all US patents issued since January 1, 1976
  - Full-text of all US published applications since March 2001
  - Access to the Patent Application Information Retrieval (PAIR) System, the US register of legal status
- Trademark Electronic Search System (TESS)
  - Access to the same text and image database of trademarks as currently provided to examining attorneys at the USPTO via the X-Search system

* *www.uspto.gov*

USPTO Web

- Including both granted and pending U.S. patents
- Granted patents:
  - Full-text (searchable) from 1976 -
  - Images from 1790- (only searchable by patent number and class)
- Applications: Full-text (searchable from 2001-)
- Granted patents are posted every Tuesday; Published applications are posted every Thursday.
- + Classification searching tools
- + Updated weekly
- - Requires special viewer (AlternaTIFF) to view images

Google Patents

- **A** search engine from Google that indexes patents and patent applications from the United States Patent and Trademark Office (USPTO)
- About 7 million patents in the database.
- Optical character recognition (OCR) has been performed on the patent pages to make them searchable

- + Good response time and PDFs
- + pre-1976 data OCRed
- *- Not complete indexing; not updated as often as USPTO*

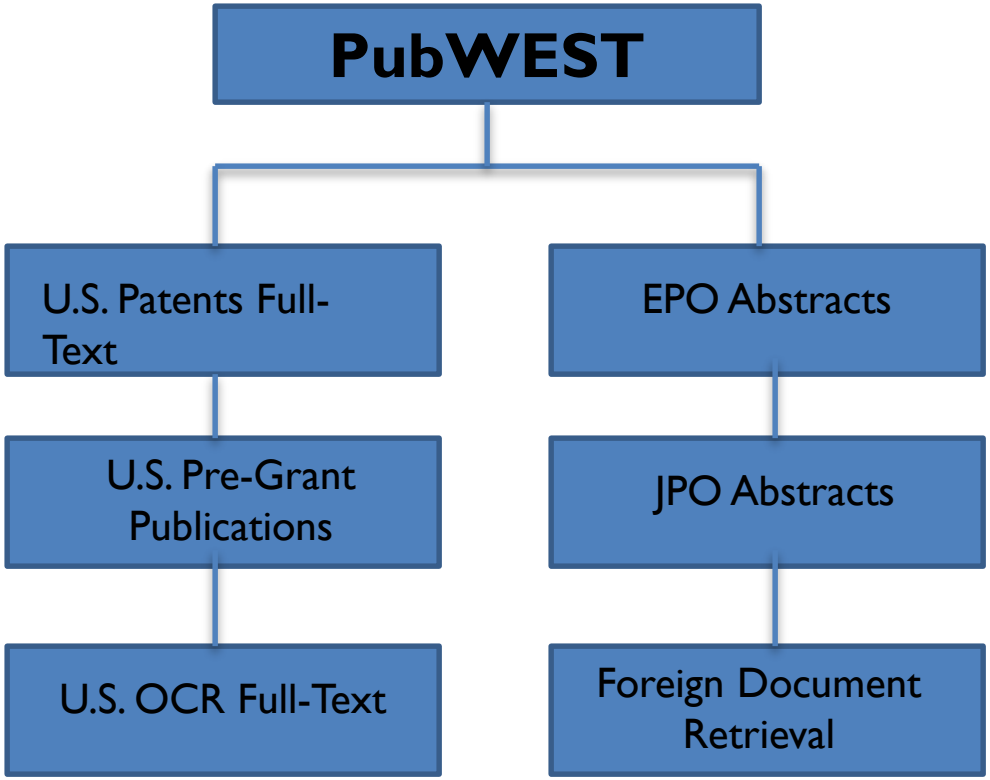
esp@cenet

- Worldwide coverage of 80+ countries (coverage varies by country)
- Bibliographic and patent identification information
- Cannot search by U.S. class and must covert to IPC
- Updated weekly
- + Includes patents from US, EPO, JPO…
- - Abstracts may not be included for all patents
- - Full-text searching is not available

PubWEST

- WEST stands for Web-based Examiner's Search Tool, an internal USPTO database for use by USPTO patent examiners.
- PubWEST is the "public" version of WEST offered only in the Public Search Facility and PTDLs.
- Full Text back to 1920 (USPTO website only provides full-text access back to 1976)
- Access to all foreign patent images stored in the Foreign Images database
- + Multiple databases, and foreign patents searching
- + Precision search (using proximity operators)
- + Grid display and data download features
- - Requires special login; Can ONLY be searched through a *PTDL* computer station

PubWEST Databases Collection



CASSIS

- **CASSIS** (**C**lassification **A**nd **S**earch **S**ystem **I**nformation **S**ervice)- a CD/DVD-ROM system available at PTDL libraries to assist users with their patent and trademark searches.
- CASSIS's update varies, depending on the file (from weekly, monthly, bimonthly, quarterly, to annually)
- + Batch sorting, downloading in variety of formats.

CASSIS Files

- CASSIS contains:
  - Patents BIB File – bibliographic information on patents granted by the U.S. (1969 -)
  - Trademarks BIB - bibliographic Information from abandoned, canceled, expired, pending, and registered US Trademarks
  - Patents CLASS - classification information on patents including the complete list of patents granted to any class and subclass (1790 -)
  - Patents ASSIST Files - the *Classification Definitions*, the *Manual of Classification* and the *Index* in electronic format, and other files related to patent information

CASSIS Files (cont'd)

- Patents ASSIGN File: US Patents recorded at the USPTO (1980-) ★
- Trademarks ASSIGN Files– US Patents recorded at the USPTO (1955-) ★
- USAPat - image of granted U.S. patents (1790 -) ★
- USAApp - images of U.S. patent applications publication (2001-) ★
- eOG:P - Annual Index and Cumulative Electronic Official Gazette ★
- USAMark – images of registered U.S. trademarks ★
- Annual Index of Patents ★

Additional Resources on the Web

- U.S. Patent Classification: http://www.uspto.gov/web/patents/classification/
- The USPTO site – PTDL Program: http://www.uspto.gov/go/ptdl/
- PTDL Library List:

http://www.uspto.gov/products/library/ptdl/locations/index.jsp

- Core Collection Of Reference Materials And Tools for PTDL: http://www.uspto.gov/web/offices/ac/ido/ptdl/pdf_files/corelist.pdf

- Patents and Trademarks Research Guide: http://libguides.gatech.edu/patent_guide

References

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- Janssen, B. Suit. (2010). *Patent models index: guide to the collections of the National Museum of American History, Smithsonian Institution*. Washington, D.C.: Smithsonian Institution Scholarly Press.
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- Wherry, T. Lee. (1995). *Patent searching for librarians and inventors*. Chicago: American Library Association.

QUESTIONS?

THANK YOU!